OSPREY MILITARY AIRCRAFT

HUEY

A Helicopter Legend

Salvador Mafé Huertas

HUEY

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UNITED STATES AIR FORCE
55

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OSPREY
AEROSPACE

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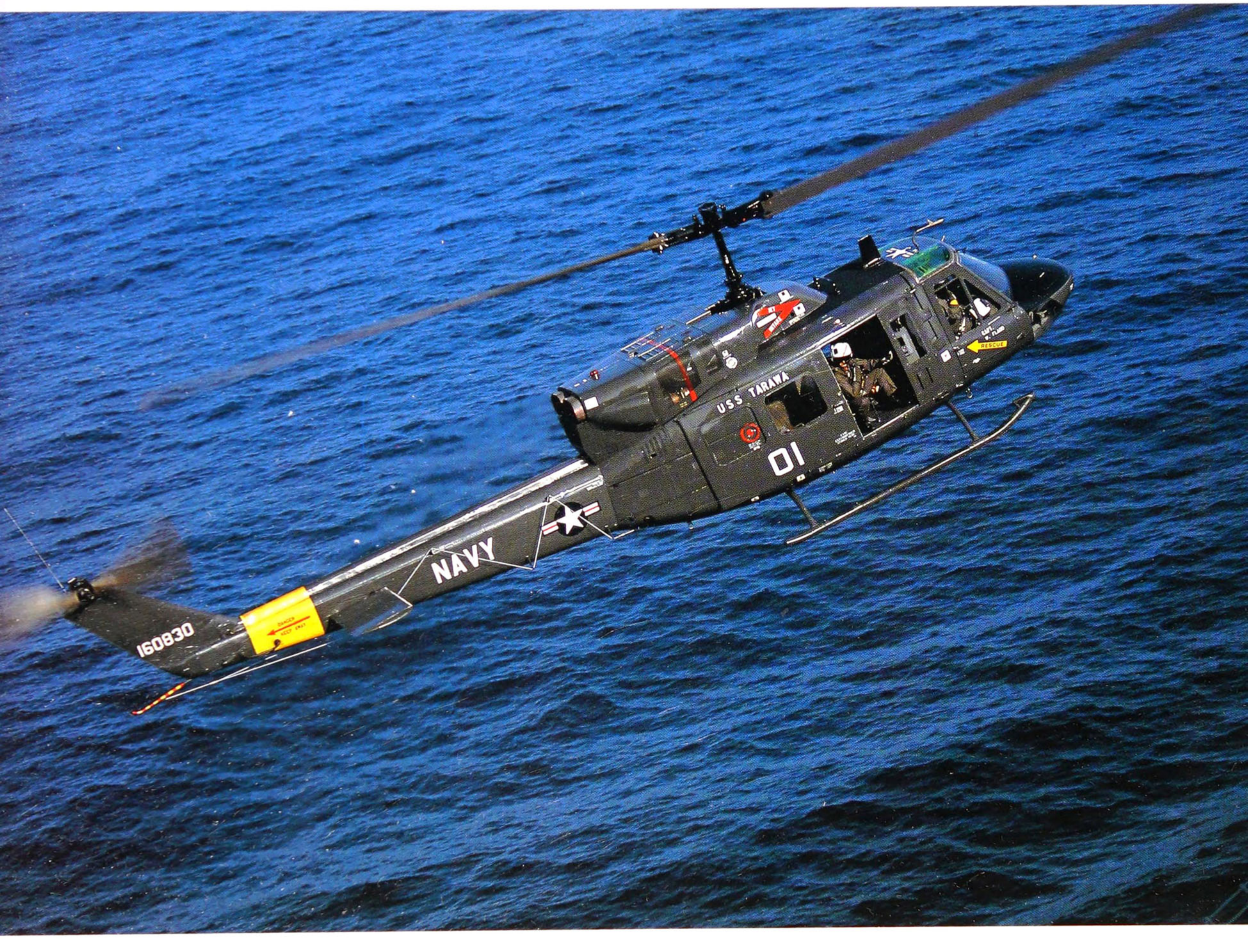
Front cover 'Thunderbirds' are go! UH-1B of the 118th Aviation Company (Airmobile Light) keeps its engine running as supplies are unloaded by US Army personnel in Vietnam during 1965. The eagle emblem (displayed on the avionics bay compartment door) adopted by the 118th Aviation Company led to the 'Thunderbirds' nickname of the lift platoons
(Tim Page)

Back cover Airmobile operations came of age during the Vietnam war, when in the words of General Westmoreland, the commander of US forces in Vietnam, opined: 'All manoeuver battalions became skilled in the use of the helicopter for tactical transportation to achieve surprise and out-manoeuver the enemy.' Today, despite the introduction of the Sikorsky UH-60 BlackHawk, the Huey is still a major supporting player in airmobile operations; the US Army plans to keep some 2700 UH-1Hs in the inventory into the 21st century
(Bell Helicopter)

Title page No stranger to the most famous address in Pennsylvania Avenue, this spotless VH-1N Twin Huey VIP transport is operated by the US Air Force from Andrews AFB, Washington, DC. Painted in Air Force blue with a white cabin roof and gold trim, ship 96655 makes a pretty picture as it passes in front of the Washington Monument and Capitol Hill on 15 May 1988. The Air Force also received 120 UH-1Fs for supporting ICBM sites, 26 TH-1Fs for instrument training and 22 HH-1Ns for base rescue with the Air Force Reserve and for duties with the Special Operations Force at Hurlburt Field, Florida
(Ken Hammond/Arms Communications)


USS TARAWA
01
NAVY
160830
RESCUE
DANGER

Immaculate UH-1N Twin Huey from the assault ship USS Tarawa (LHA-1) transitions into the hover above the ocean blue on 15 June 1990. Buno 160830 is one of about 30 examples serving with the US Navy in the utility/SAR role. Twin Huey deliveries to the Navy and Marine Corps began in 1971 *(Joseph Towers/Arms Communications)*

Introduction

Unless the Bell-Boeing V-22 Osprey is put into full production (an unlikely prospect as these words are written in October 1992), the UH-1 is probably the only aircraft that the US Army, Navy, Marines and Air Force will all agree to operate. This single fact speaks volumes about the quality of the Bell UH-1 'Huey', a helicopter which began life in response to the 1955 Support System 443L competition, from which the XH-40 prototype was duly selected as the US Army's new utility helicopter.

When Bell test pilot Floyd Carlson guided the first of three XH-40 prototypes in the air for its maiden flight on 22 October 1956, no one could have foreseen that the subsequent family of Hueys would be built in far greater numbers than any other Western aircraft of any type (well over 20,000), and that it would stay in continuous production up to the present day.

The Huey was simply the right helicopter at the right time. And like all the best aeronautical designs, the basic UH-1 was able to accept progressively more powerful engines, a fuselage stretch, as well as the mission avionics and weapons needed to fulfil a myriad of diverse roles.

The amazing operational versatility of the Huey family manifested itself in the Vietnam war, when the initial A-model was modified as the UH-1B 'gunship' to provide fire support for the piston-engined Piasecki CH-21 Shawnee and other transport helicopters operating in the assault role. To list all of the different tasks undertaken by the various UH-1s in Southeast Asia alone would require too many column inches; suffice it to say that, without the Huey, the US Army and Marine Corps would have found it impossible to deploy, supply and protect their forces as effectively.

Post-Vietnam, Bell continued to enhance its Huey derivatives, especially the Model 214 and 412 for the civil market, the latter still being produced – albeit mostly in military guise – by Agusta of Italy. The sheer quality of Bell's classic design has also been rewarded with licence-production agreements with AIDC in Taiwan, Dornier in Germany and Fuji in Japan.

This Osprey Military Aircraft volume presents an unrivalled tour de horizon of the Huey family.

Right Photographed on 21 July 1989, serial number 16877 is a US Army UH-1H 'medivac' machine. The UH-1H was the definitive medical evacuation helicopter employed in Vietnam; unlike the earlier A, B and D models, the 'Hotel' had provision for a personnel rescue hoist and, thanks to the more powerful T53-L-13 turboshaft, its lifting ability was not drastically reduced at high density altitudes. Under the 'Dust Off' system perfected by the 57th Medical Detachment ('The Originals'), Hueys evacuated nearly 900,000 patients between 12 May 1962 and 11 March 1973 *(Douglas A Zalud/Arms Communications)*

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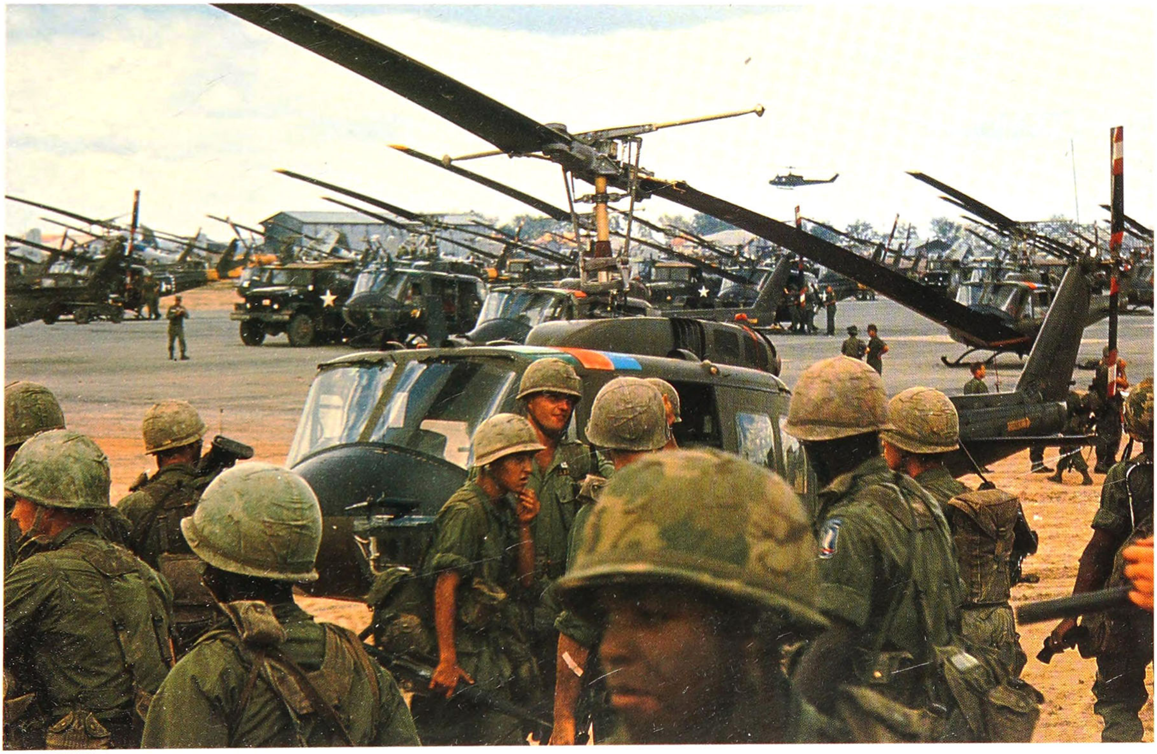
Vietnam

These pages Next stop, the 'Iron Triangle'. Paratroopers of the 173rd Airborne Brigade, US Army, assemble at the chopper pad prior to lifting off from Bien Hoa Air Base in September 1965. The 173rd Airborne Brigade – 'The Herd' – was the first major US Army combat unit to be deployed in Vietnam, arriving at Bien Hoa from Okinawa, Japan, on 7 May 1965. Initially tasked with base defence duties at Bien Hoa and Vung Tau airfield, the brigade (which operated in conjunction with the attached 1st Battalion, Royal Australian Regiment), soon went on the offensive. UH-1D Hueys in the background are camouflaged in accordance with the order issued in 1965 which stipulated that all aircraft should be painted in a low visibility scheme of overall flat olive drab; all national markings were removed and replaced by 'UNITED STATES ARMY' in black six-inch letters applied to either side of the tail boom. Although the Huey became less of a target for enemy gunners, (who could nevertheless hear the helicopter coming from miles away), the new camouflage scheme also made it more difficult to spot the Huey from above (important when approaching a crowded LZ or spotting a downed machine), and consequently many units added coloured panels on the rotor blade tips, elevator tops and on the cabin roof. Red and blue panels may be discerned on the cabin roof of the nearest Huey on this page. All of the images in this opening chapter were taken by the renowned war photographer Tim Page



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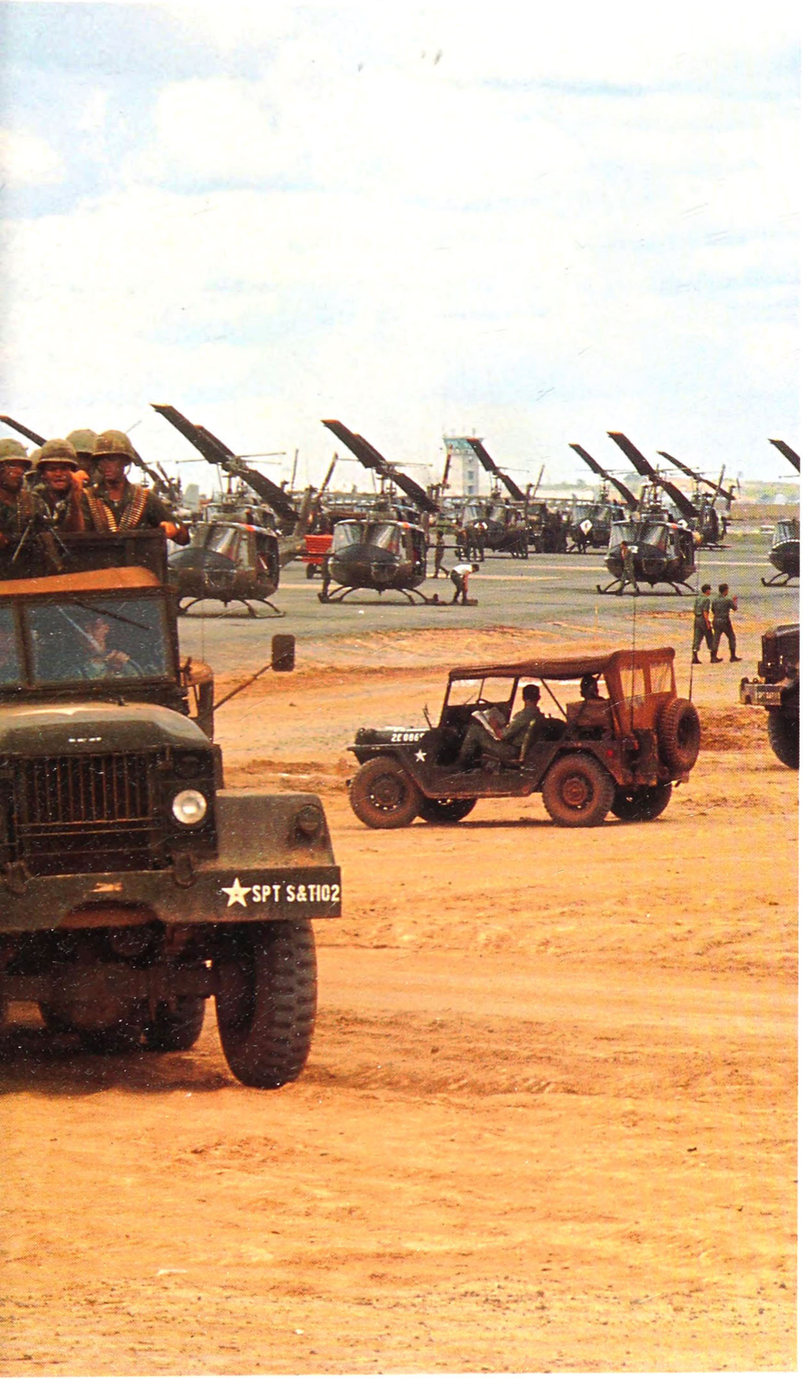
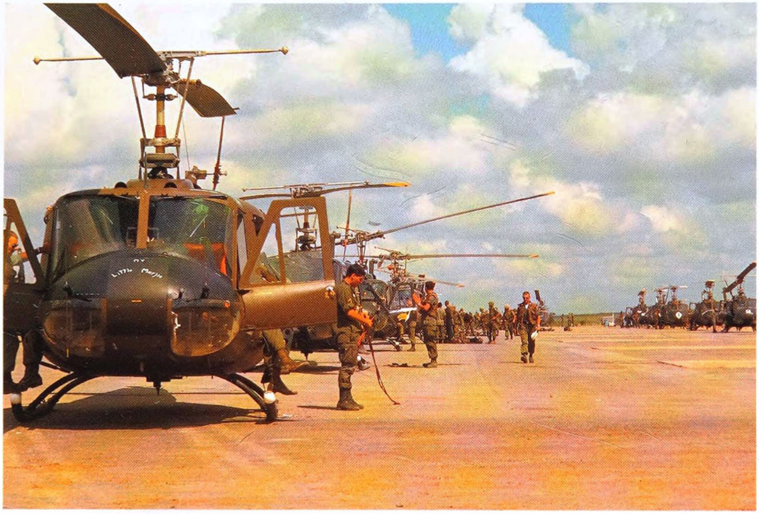


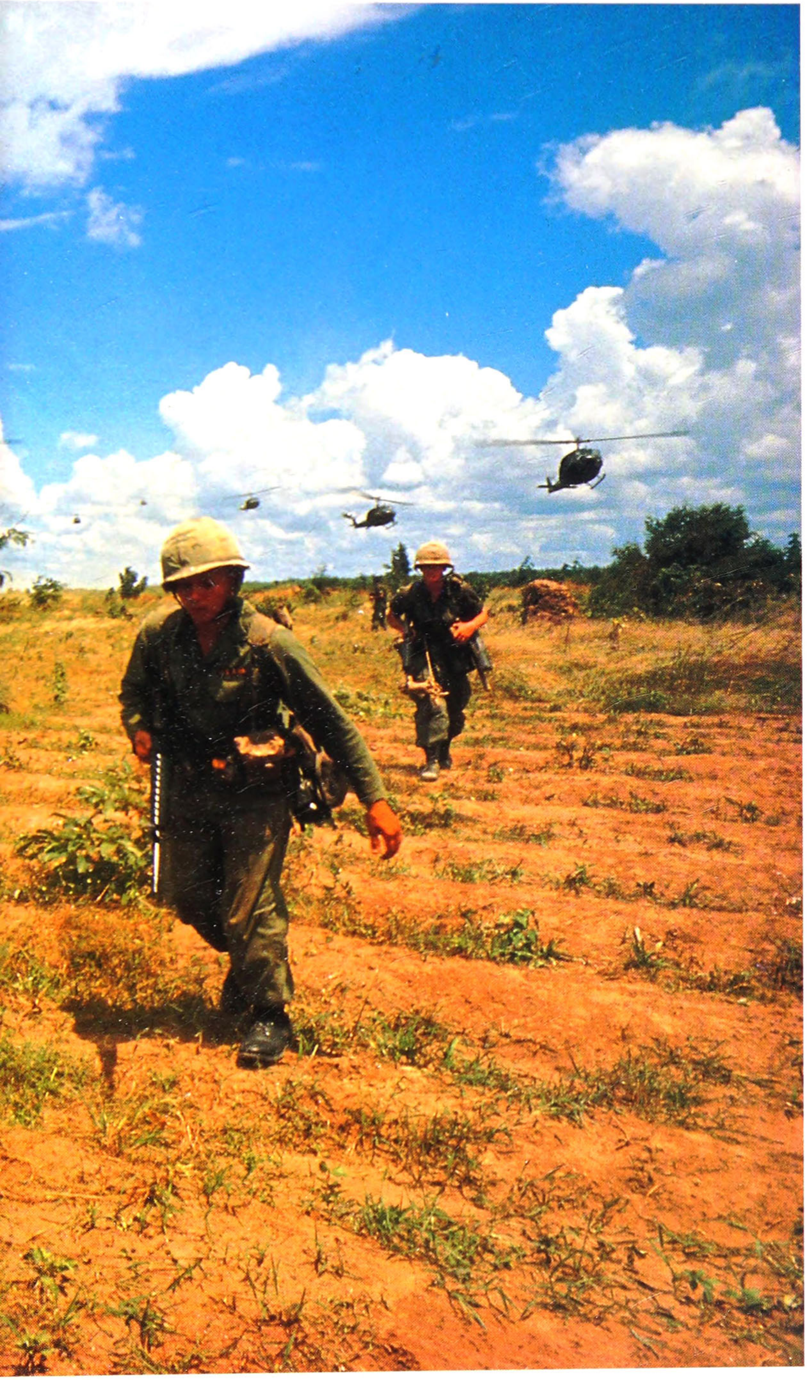
September 1965: Bien Hoa is a hive of activity as the 173rd Airborne Brigade make their final preparations before launching Operation Cedar Falls against the National Liberation Front sanctuary known as the 'Iron Triangle', just northwest of the capital Saigon in South Vietnam. The first Hueys arrived in Vietnam in late April 1962, the 57th Medical Detachment (Helicopter Ambulance), US Army, having the honour of being equipped with five HU-1As. By the time HU-1 (from which the nickname Huey was derived), became UH-1 under the unified designation system introduced on 18 September 1962, the helicopter was hardly ever referred to by its official US Army name of 'Iroquois'. Indeed, the manufacturer even went so far as to emboss 'HUEY' on the right directional control pedal, 'BELL' being embossed on the left pedal



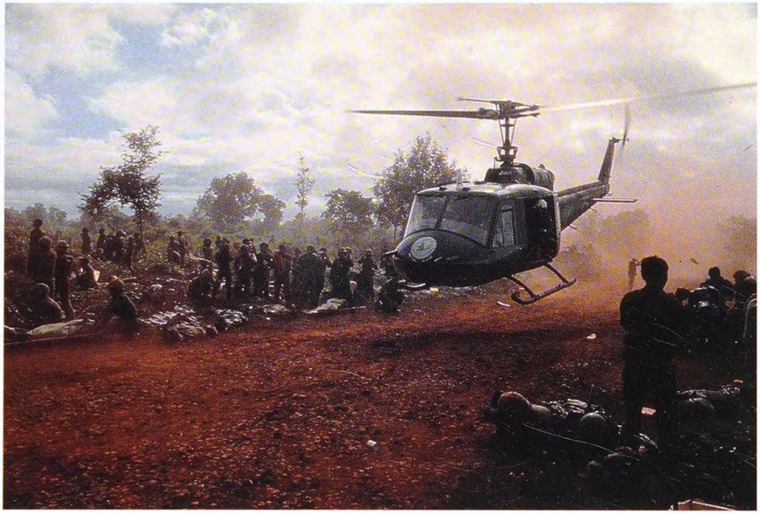
Above *Little Margie*, a UH-1D of the 121st Assault Helicopter Company, 'Soc Trang Tigers', heads up an impressive array of 'Airmobility' at Bien Hoa in 1965. Located in a rural area 15 miles (24 km) north of Saigon, Bien Hoa became a joint operating base for both the USAF and South Vietnamese Air Force (VNAF), and consequently supported more air combat units than any other base in South Vietnam. On 16 May 1965, a few months before Tim Page took this photograph, Bien Hoa suffered its second devastating attack of the war when NLF sappers destroyed ten USAF B-57s, eleven VNAF A-1H Skyraiders and one Navy F-8 Crusader. Undaunted, the Americans continued to construct more taxiways, parking ramps and revetments; a second east-west 10,000 ft (3048 m) concrete runway was completed in 1969

Right Into the crucible. Paratroopers' eye view of the largest troop lift operation of the war so far when these UH-1Ds of the 121st Assault Helicopter Company were included in the force of 144 Army helicopters which went looking for trouble in War Zone D on 27 June 1965

ARMY



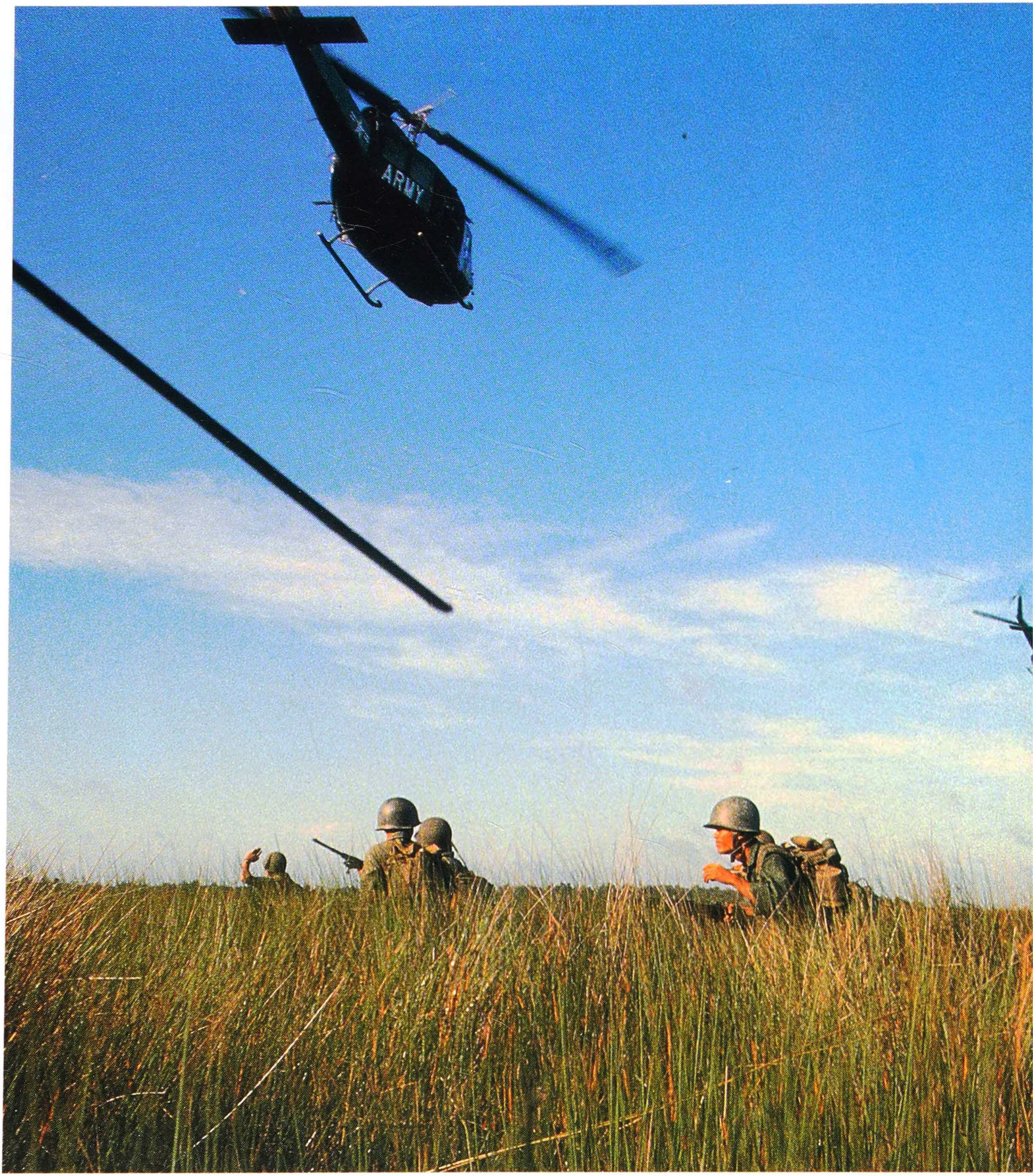
'Happiness is a cold LZ'. Armed with the notorious M16 (Armalite) automatic rifle, paratroopers of the 173rd Airborne Brigade move out from an unopposed landing zone, the Huey 'slicks' having inserted them within close assault distance of an objective inside the Iron Triangle in September 1965. The Huey troop carriers were known as slicks because their smooth lines were not spoiled by the drag-inducing armament systems fitted to the gunships

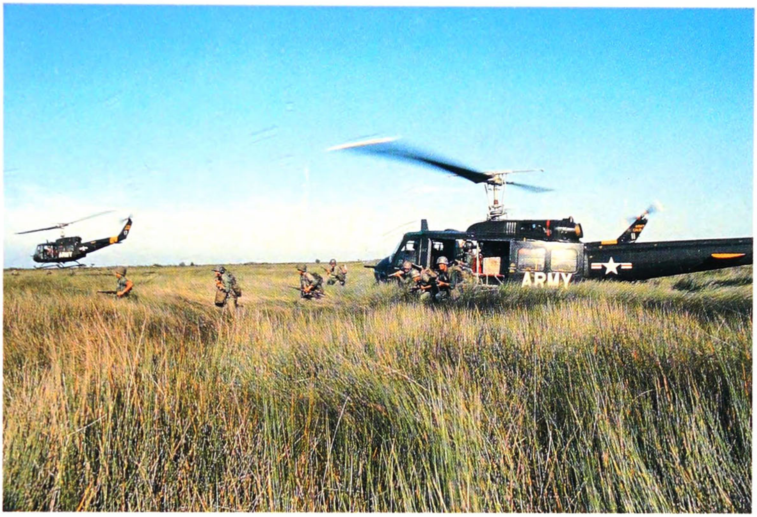


Above A UH-1B of 119th Assault Helicopter Company, the 'Crocodiles', leaps into the air from a dirt road vacated by a convoy at Da Co in 1965

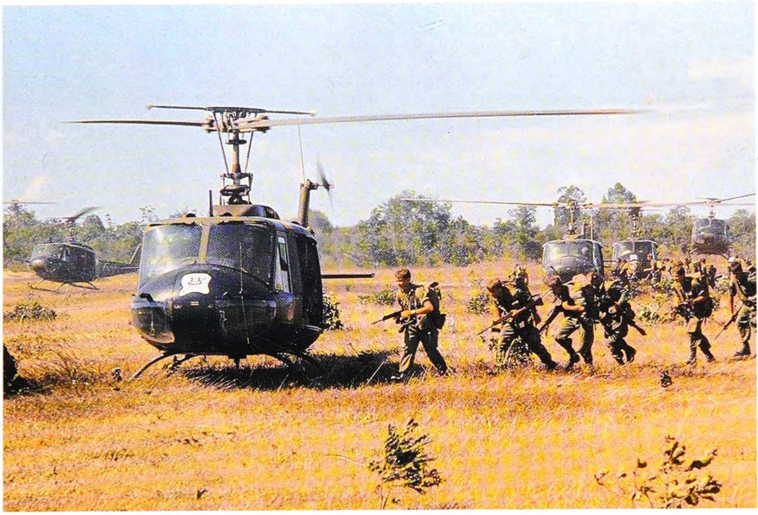
Right Paratroopers of the 101st Airborne Division double towards a UH-1D of the 1st Cavalry Division (Airmobile) at Chu Phong.
'The First Team' began to arrive in Vietnam on 27 August 1965; it was the first major formation specifically equipped and trained for airmobile warfare. Under the command of Brigadier General John Wright Jr, the division was equipped with 428 helicopters (mostly UH-1B/Ds supported by 48 CH-47 Chinooks, four CH-54 Tarhe 'Flying Cranes' and a number of OH-13 light observation helicopters), and six Grumman OV-1 Mohawk observation aircraft. When, on 19 October 1965, three regiments of the North Vietnamese Army (NVA) assaulted the Special Forces camp at Plei Me, the 1st Cavalry 'came over the hill' in support of the hard-pressed defenders. During what became known as the Battle of the Ia Trang Valley, the Division delivered over 5000 tons of supplies to the troops and carried a further 8216 tons into Pleiku, which the enemy had intended to crush as part of its plan to sever South Vietnam in two. After fierce fighting, the NVA decided to cut and run, abandoning their attack on the camp in favour of a retreat across the border into Cambodia; but the 1st Cavalry's search and destroy mission did not allow them to escape without further heavy losses

2
PILOT


ARMY



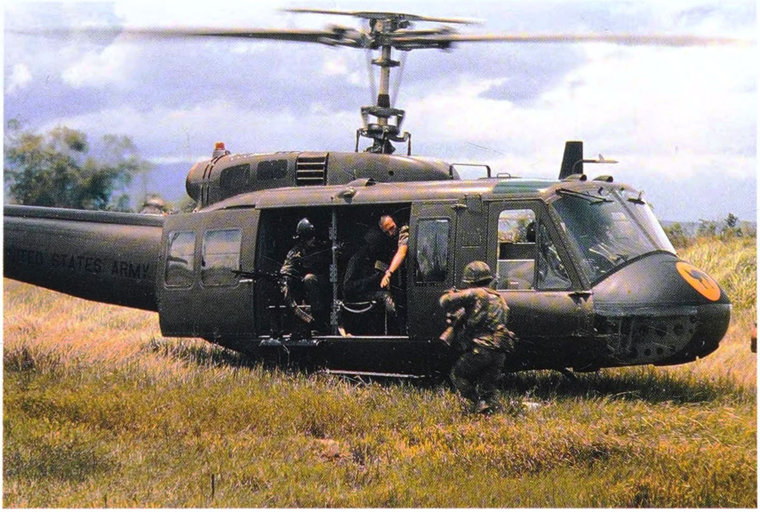
Rangers of the ARVN (Army of the Republic of Vietnam) fan out into the Plains des Jones so as to secure the LZ for the following Hueys. There is no doubt that, when properly led by officers they trusted, ARVN soldiers (including ARVN Rangers, who were trained by US Special Forces), fought with great skill and tenacity, especially during the fighting for An Loc in 1972. However, poor leadership from corrupt officers often meant that ARVN units were of limited value on the battlefield. Understandably, 'Marvin the ARVN' was not held in high esteem by his US Army counterpart. Early airmobile operations revealed that ARVN troops did not ensure that their weapons were 'safe' prior to boarding the helicopter and often prolonged its exposure to enemy fire before they were 'persuaded' to jump out from the hover. Photographed in 1965, these UH-1Ds have the high visibility colour scheme of overall gloss olive drab (FS 14087) with a broad yellow band applied just ahead of the elevators; 'ARMY' is applied in white letters on the cabin doors and the national insignia is carried on both sides of the tail boom



Above Troops of the 1st Royal Australian Regiment file towards US Army UH-1Ds for a pick up north of Vung Tao in 1965. In contrast to the Americans, who would normally precede their large infantry attacks with massive air-strikes, the Australians successfully used small patrols that moved quietly through the jungle in a bid to encounter the enemy rather than send them scurrying for cover or out of the area altogether – adapting tactics which had served them well against the Japanese in World War 2. These riflemen are armed with the 7.62 mm SLR, a semi-automatic weapon much more dependable and with greater stopping-power than the M16; the Digger in the middle of this group is carrying an M60 machine gun

Right US Marines of the 9th Marine Expeditionary Brigade bundle a wounded NLF soldier towards a UH-1E of Marine Observation Squadron (VMO) 2 or 6 during fighting in the Batangan Peninsular in 1965. The domed housing of the personnel rescue hoist on the cabin roof is a recognition feature of the UH-1E; this example also has a 'Long Line' HF antenna along its tailboom. Medical evacuation was just one of the various roles undertaken by Marine Corps' UH-1Es, which differed from the Army versions in having a rotor brake so that the engine could be quickly shut down on the decks of assault ships; aluminium was subsituted for magnesium components in order to minimize the effects of salt corrosion. 'Echoes' were also configured as gunships with the Temporary Kit-2 (TK-2) Armament Subsystem, comprising four side-mounted 7.62 mm M60C machine guns and 2.75 inch (75 mm) rocket pods; from April 1967 the TK-2 was augmented by the TAT-101 chin turret with twin M60s

DANGER

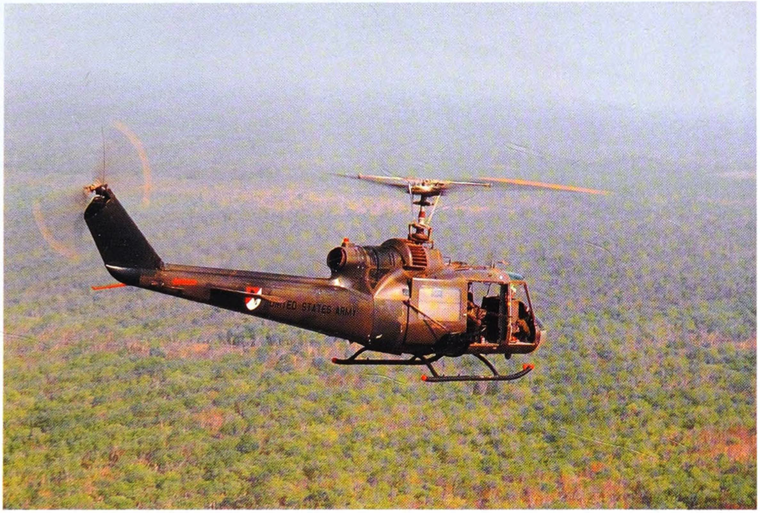


Above ARVN Ranger prepares to board this UH-1H of the 282nd Assault Helicopter Company, 'Black Cats', prior to extraction from south of Tamky in 1967. The UH-1H (civil Model 205A) was the result of fitting the Lycoming T53-L-13 turboshaft of 1400 shp (1044 kW) into the 'Delta' airframe, the two machines being virtually identical in all other respects. The pace at which Lycoming managed to extract greater performance from the engine may be judged by the fact that the L-13 version had twice the power of the XT-53 installed in the prototype Huey, the XH-40, first flown on 22 October 1956. Delivered from September 1967, no less than 5435 UH-1Hs came off the production lines, including 3573 for the US Army and 765 for the VNAF, the second largest operator of the type

Right A US Army Huey prepares to extract Khmer irregulars from Nui Coto, seven miles from Ba Xoai, in 1968. This UH-1H displays the M-23 Armament Subsystem which became standard on all 'Delta' and 'Hotel' models. The pintle mount for the M60D machine gun and a 500-round ammunition box is attached to the base tube assembly located on the fuselage hard points

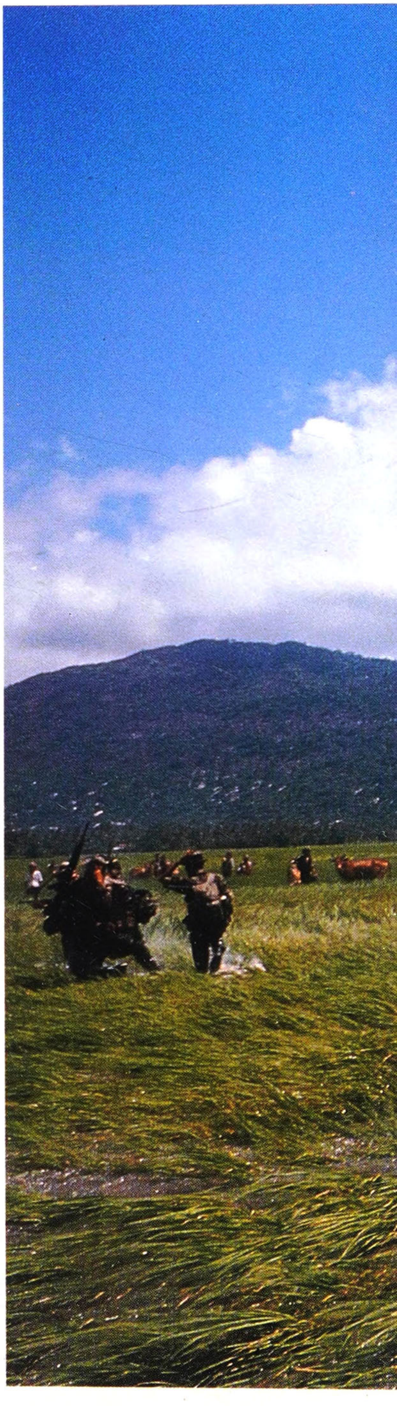
A Huey flies down an almost deserted main street in Cholon, the Chinese district of Saigon, notorious for its Communist sympathies, during the 'Mini-Tet' attacks by the Viet Cong in the summer of 1968. By this time the Tet Offensive, launched on the night of 30 January as revellers packed the streets of Saigon to greet the New Year of the Monkey, had shot its bolt, North Vietnamese forces having been decisively beaten on the battlefield. Unfortunately, prior to Tet, the administration of President Lyndon Johnson had told the American people that that US and its allies were winning the war; consequently the public was deeply shocked by the scale of the offensive and the number of US casualties. When NBC anchorman Walter Cronkite questioned whether or not the war was winnable he voiced the doubts held by millions of ordinary citizens. Tet was a classic case of winning a battle, but losing the subsequent media war; despite its considerable military achievements in Vietnam, the US government had failed to win the hearts and minds of its own people

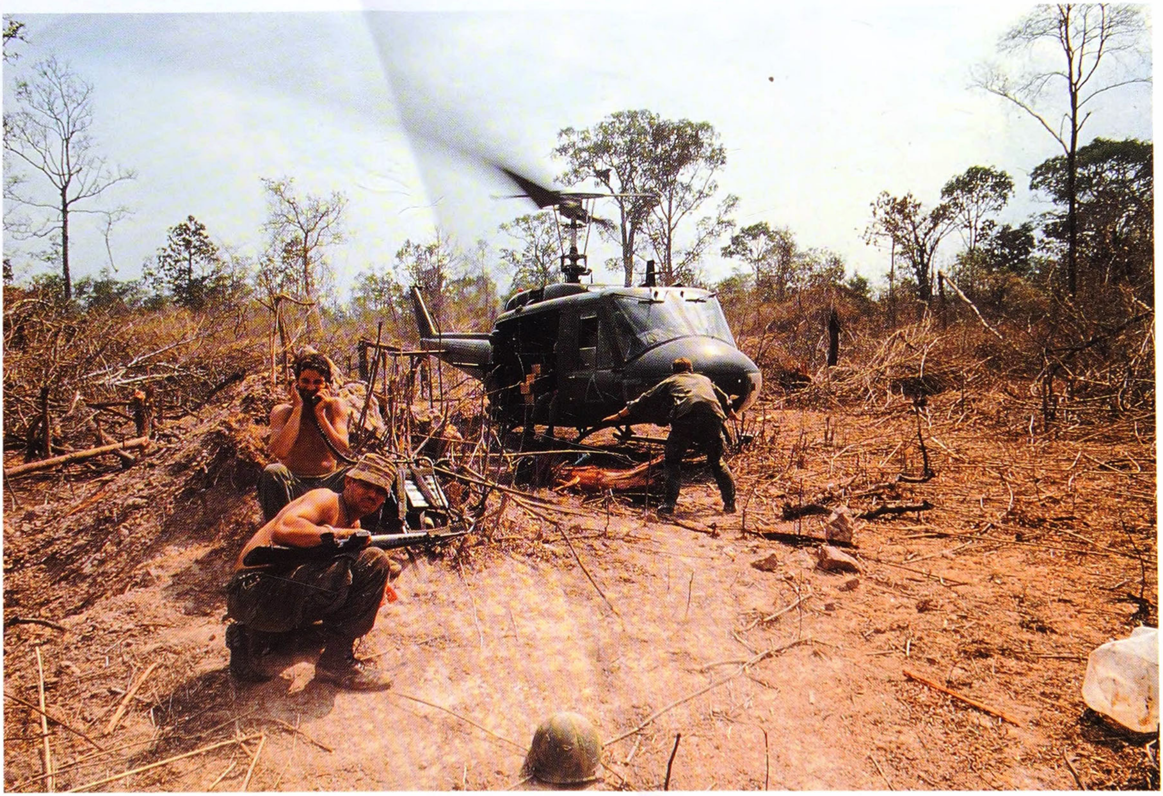
SINSANG
VIET.NAM



Above Sans crew doors (which can be jettisoned in flight), the occupants of this UH-1B of the 11th Armored Cavalry Regiment, 'Blackhorse', shoot the breeze above the Michelin Plantation in 1968. In the troop-carrying role the UH-1B could accommodate seven soldiers and a crew of two, but in Vietnam it was more commonly employed as a gunship in support of the slicks. 'Bravos' embodied several improvements over the UH-1A, including progressively more powerful engines (initially the T53-L-5 rated at 825 shp at 6600 rpm, which was also retrofitted into the UH-1A); new rotor blades of honeycomb construction with chord increased from 14 to 21 inches (35.6 to 53.3 cm); a taller rotor mast and gross weight increased to 8500 lb (3856 kg)

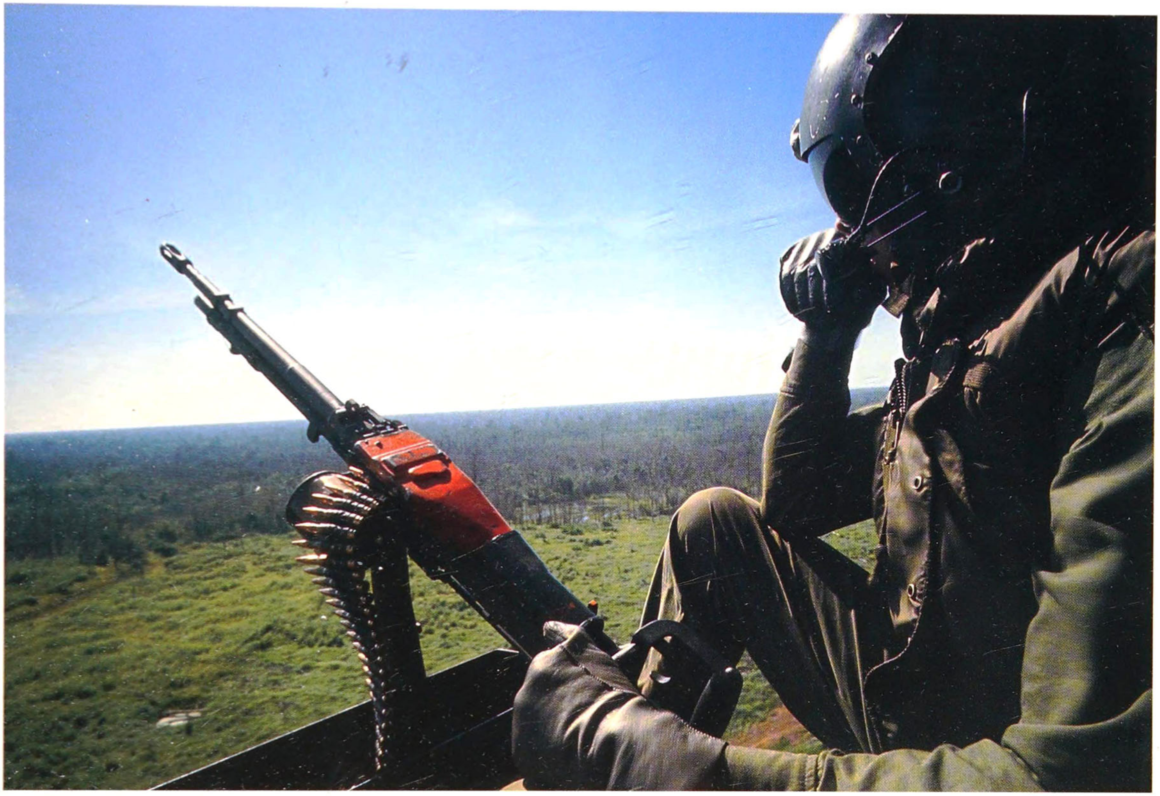
Right With its door gunner ready to give covering fire, a UH-1H of the 7th Cavalry, 1st Cavalry Division (Airmobile), lifts off after landing Khmer irregulars in rice paddies near Nui Coto. Trained by US Special Forces, the Khmers were used to conduct special operations in South Vietnam and Cambodia





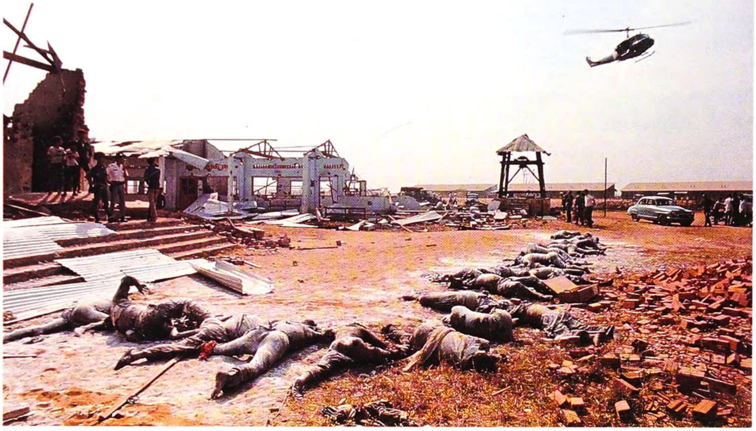
Above A UH-1H of the 1st Cavalry Division (Airmobile) brings in supplies to the blocking force north of the Michelin Plantation in 1969. Situated to the northwest of Saigon in the 'Iron Triangle', the Michelin Plantation was fought over many times during the course of the Vietnam war, yet amazingly it was not abandoned and continued to produce rubber throughout the conflict

Right The Hueys which went to war in Vietnam were fitted with machine guns in the cabin doorways for suppressive fire, including some of the helicopter ambulances. Wearing ceramic Body Armor, Small Arms, Protective, Aircrewman, with both back and front protection, this door gunner of the 25th Infantry Division inspects the ammunition belt of his M60D over Cu Chi in 1969. Pilots and co-pilots, who sat in armoured seats, wore frontal 'chickenplates' only



Left A UH-1B fires 2.75 inch rockets at a coastal target north of Vung Tao in 1965. This gunship is fitted with the most common weapon combination during the early years in Vietnam; namely the M-16 Armament Subsystem with quadruple 7.62 mm M60C 'flex guns' (visible at bottom right of this photo, fed by flexible chuting) and two seven-tube 2.75 inch (75 mm) rocket pods (from late-1965, XM-158s with safer rear loading), slung from bomb racks on the hard points located below and behind the cabin doors. Alternatively, the XM-3 Armament Subsystem could be fitted, which consisted of two launcher pods with a total of 48 rocket tubes attached to the universal mount on each side of the helicopter. From late 1966, the 'flex guns' were superseded by two M-134 Gatling-type 7.62 mm miniguns. So heavy were the UH-1B gunships that they often had to coaxed into the air, especially if the XM-3 rockets were combined with the 40 mm M-75 grenade launcher of the nose-mounted M-5 Armament Subsystem. The retrofit of increasingly more powerful T53 engines went some way to improving the lack-lustre performance of the Huey 'Hogs', which were supplanted by the first of 766 dedicated UH-1C gunships during 1966

Above 'Go on, make my day'. M60D machine gun at the ready, this door gunner is on constant alert as the Huey sweeps along the Michelin Plantation south of An Loc. As shown here, the B-3 size C-ration, attached to the assault bag fastening slide of the M60, was commonly used as a feed guide to minimize stoppages. Sartorial details of the door gunner include Army APH-5A Flyer's Helmet, fire-resistant Nomex flying suit and gloves, and M-69 flak jacket

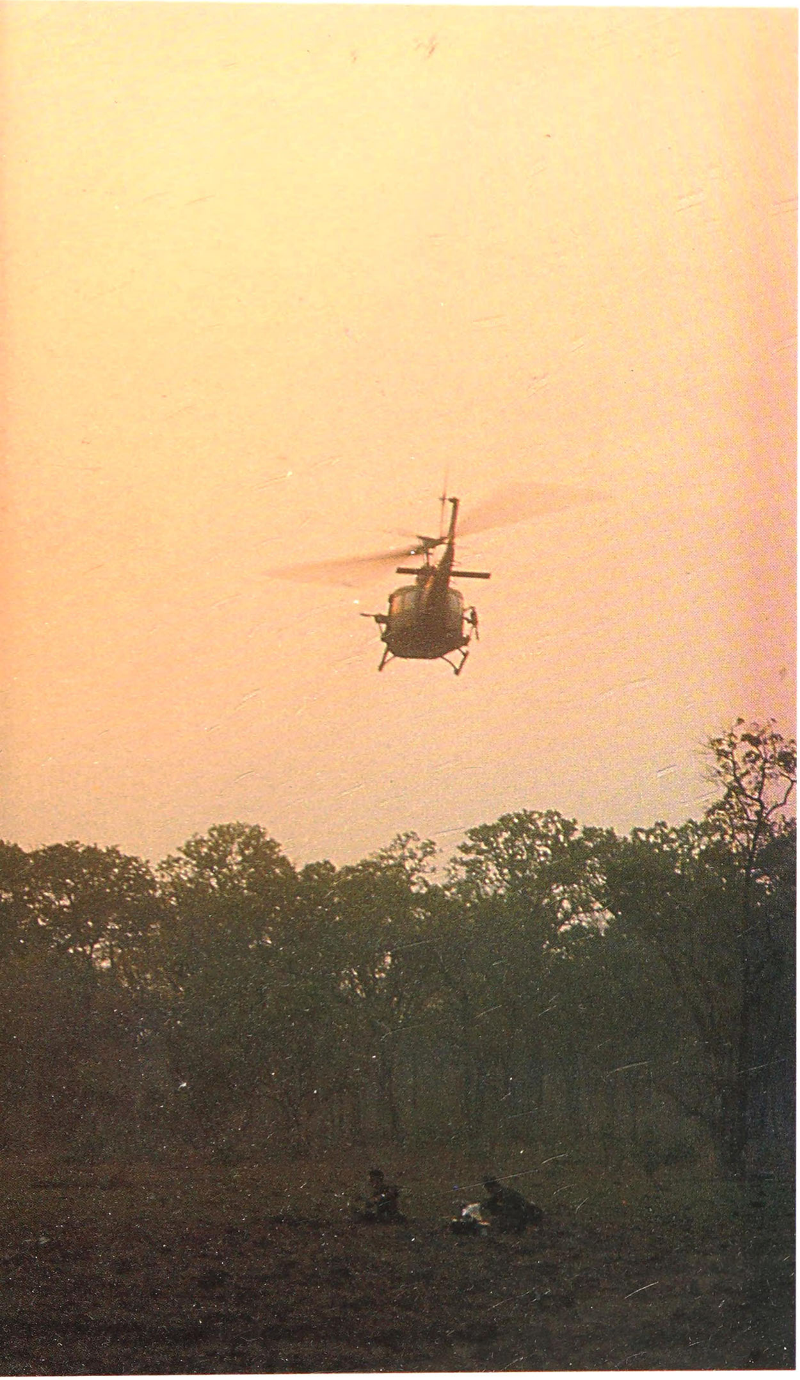


Above A Huey surveys the aftermath of an attempt by NVA troops to break into the PoW camp at Dong Lack near Bien Hoa AB in 1969. The attackers made their last ditch in the gutted Roman Catholic church on the left

Left The pilot of an AH-1G HueyCobra receives last-minute instructions before the formation of 'Snakes' and Huey slicks lifts off from the airstrip at Loc Ninh during operations near the Michelin Plantation in 1969. Easily distinguishable from standard Hueys due to its sleek, low-drag fuselage, in which the pilot (rear cockpit) and gunner sat in tandem, the first HueyCobra attack helicopters arrived in Vietnam in September 1967. Both of these HueyCobras are armed with the XM-28A1 power-operated chin turret mounting two 7.62 mm miniguns; on the stub wing hardpoints are XM-159 rockets pods (outboard) and XM-18 minigun pods. HueyCobras proved extremely effective, their principal missions being escort, troop support, armed reconnaissance and direct fire support

The Mekong Delta in January 1969: US Army UH-1H rises from the landing pad after delivering supplies to an Armored Troop Carrier (Helipad), or ATC(H), of River Assault Flotilla One, the US Navy's principal contribution to the Mobile Riverine Force (MRF). A number of 'Tango boats' were modified with a helipad above the troop compartment, allowing the US Army to increase the effectiveness of its helicopter support to the MRF. Notwithstanding the minimal margin for error during landings and take offs from what must have been the smallest vessels ever used for helicopter operations, the technique proved to be a success and was first used in action during Operation Coronado I between 1 June and 26 July 1967

NITED STATES ARMY

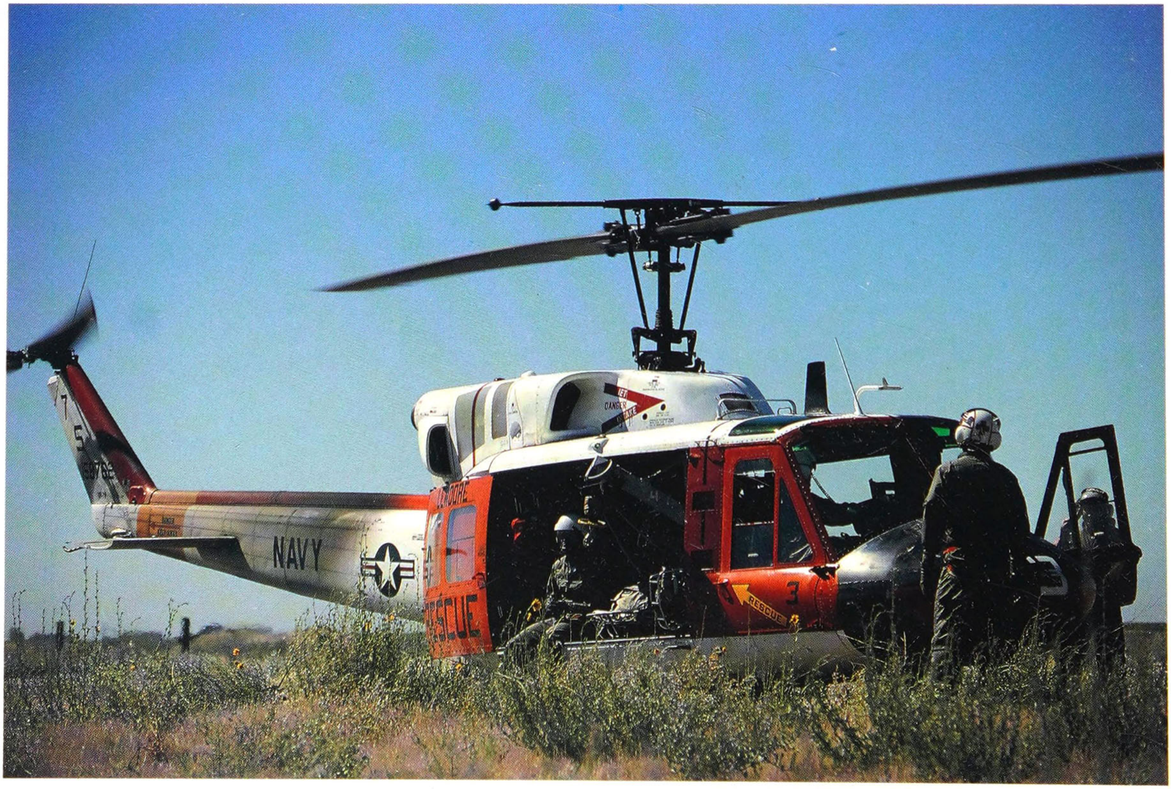


Heading into the setting sun, Huey slicks of the 1st Cavalry Division (Airmobile) depart from an LZ in Chu Phong after inserting troops in the Central Highlands of II Corps; this region was geographically the most demanding area of operations in Vietnam due to its combination of jungle and mountainous terrain

US Navy and Marine Corps

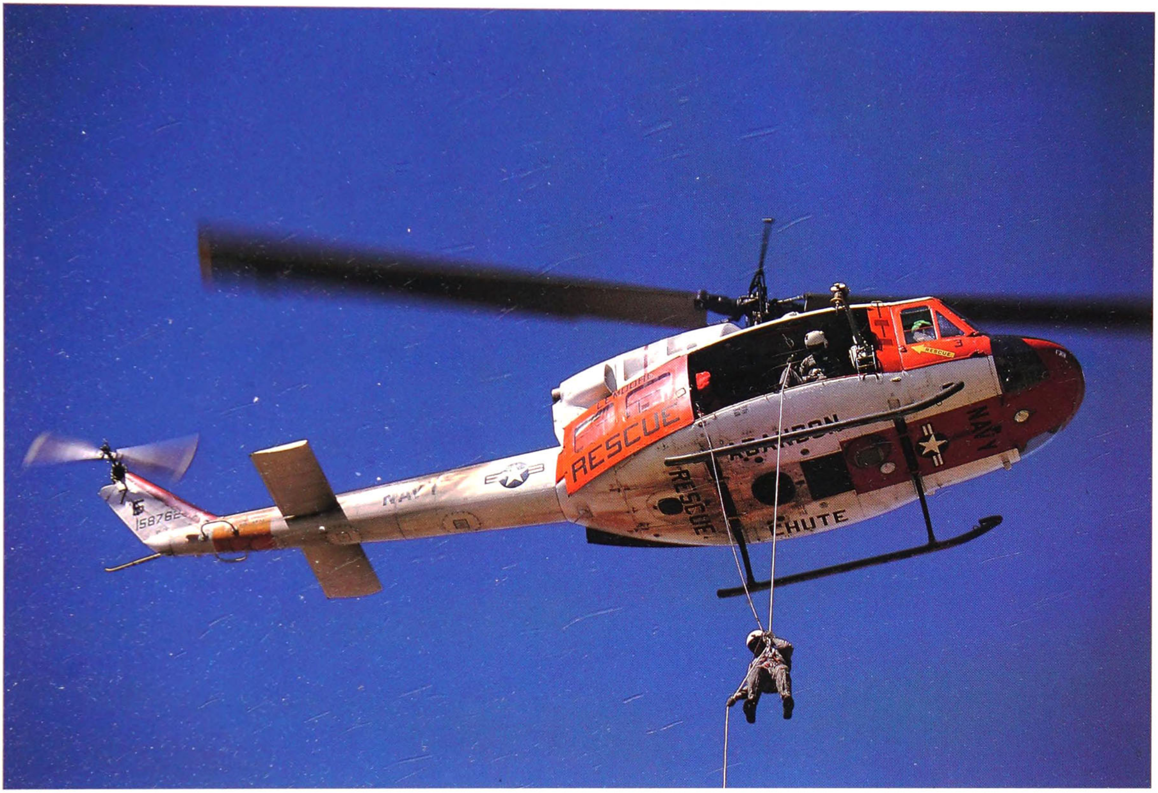
Below Rotors turning at low rpm, the Twin Huey rests in the scrublands near Lemoore prior to performing the practice rescue mission illustrated on the following pages. The rescue hoist is visible to the right of the crewman sitting on the floor of the main cabin. Judging by the exhaust stains on the tail boom, this Lemoore-based UH-1N has been quite busy recently *(Tony Holmes)*

Right If not exactly sleek, the lines of the UH-1N Twin Huey are certainly purposeful. Number 3 basks under a clear blue sky at NAS Lemoore in California, ready to rescue any crews who are forced to eject or crash land whilst operating in the operational areas of the San Joaquin Valley (the fruit bowl of the 'Sunshine State'), surrounding the base *(Tony Holmes)*

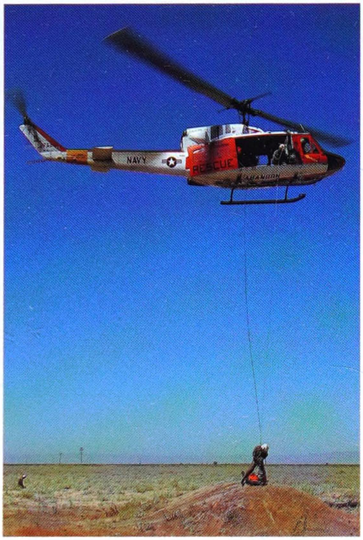


BATTERY ACCESS
3

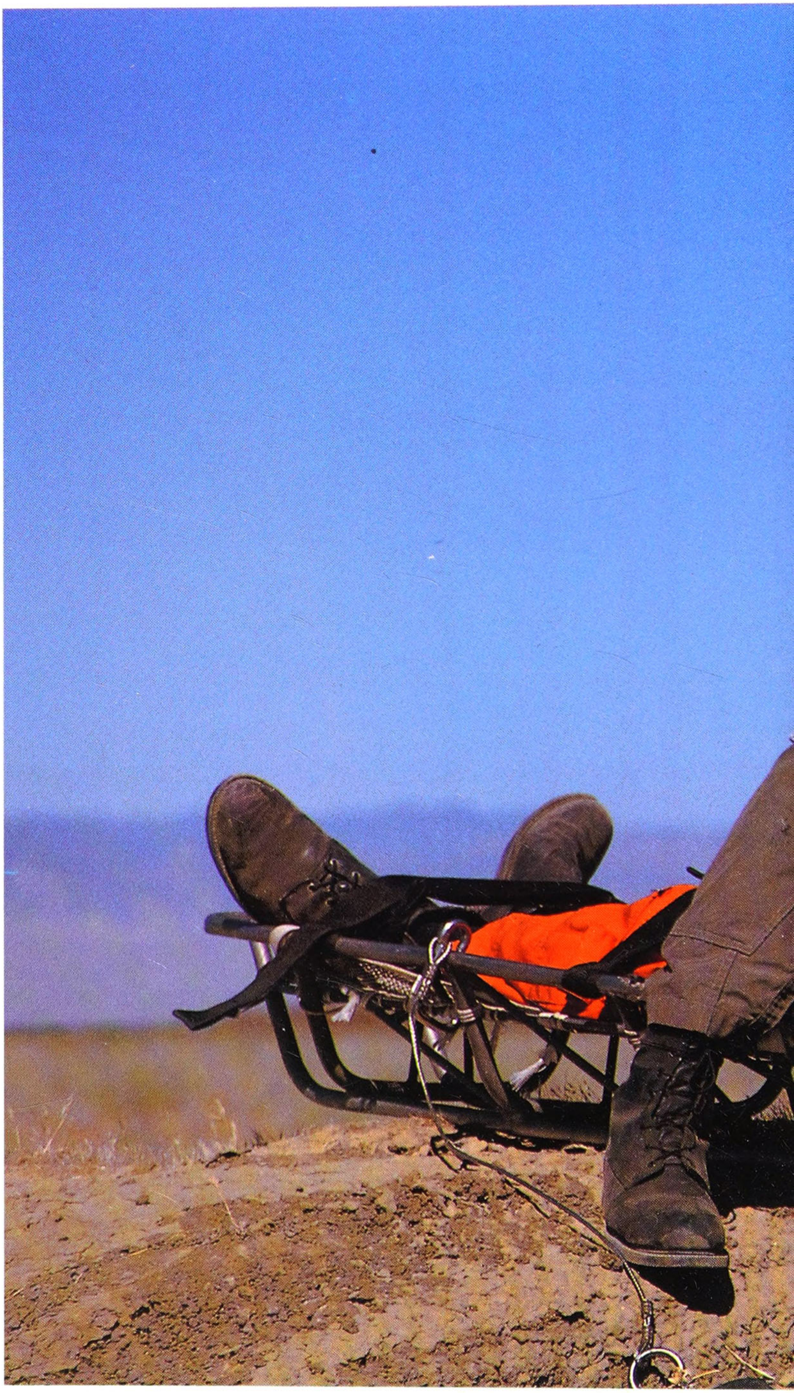
NAVY
ABANDON
CHUTE
RESCUE
NAVY



These pages Lt Liz Olmo keeps the Huey steady as a crewman rappels down to the casualty. This technique is used when the nature of the terrain makes it impossible for the helicopter to land; considerable skill is required on the part of the crewman and pilot, who must both be aware of the need to make any movements as smooth as possible to prevent the rope swinging wildly back and forth. The reminder to 'ABANDON CHUTE' on the belly of the helicopter may seem obvious (because the rotorwash would inflate the parachute canopy and blow the casualty away from the rescuers), but even professional military aircrew are often not at their best when suffering from post-ejection shock *(Tony Holmes)*

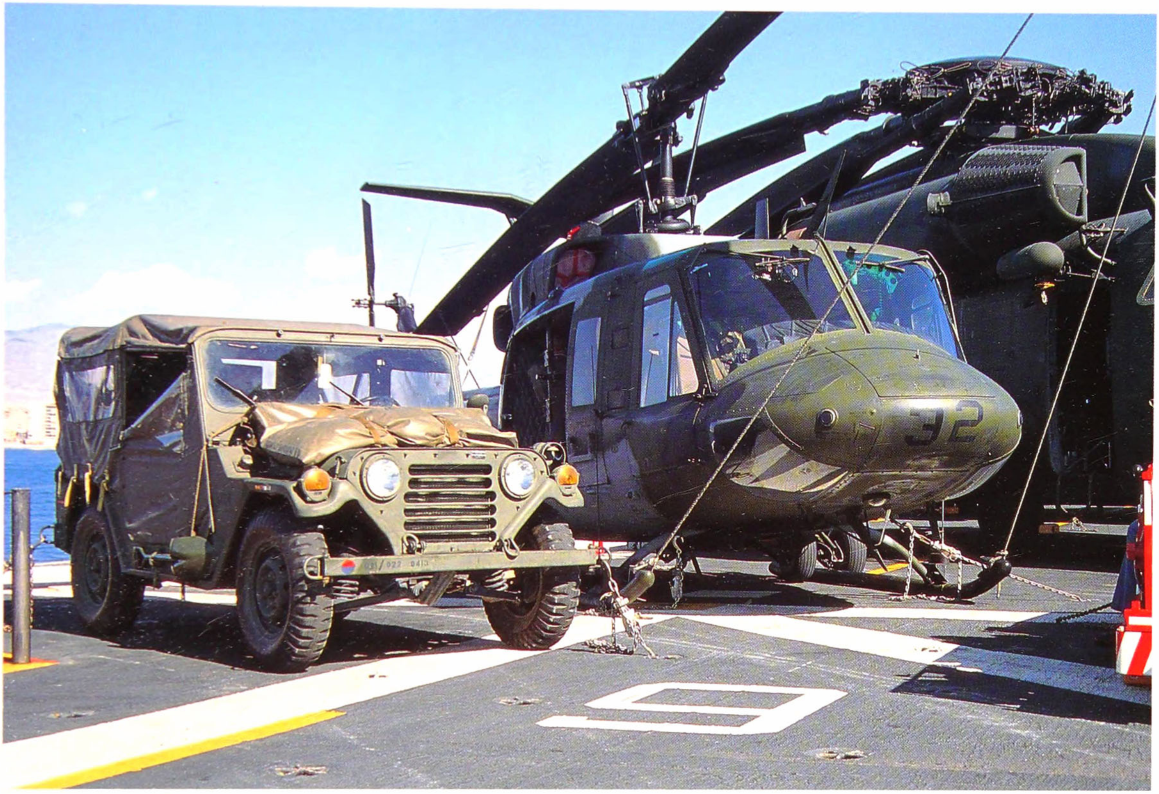


These pages After rappeling down, the crewman stands astride the stokes litter as he secures the 'casualty' (who was easy to spot in his international orange flight suit), before they are both hauled up to the helicopter. A safety line ensures that the crewman and casualty will not fall if the cable snaps or it becomes jammed and has to be deliberately cut *(Tony Holmes)*



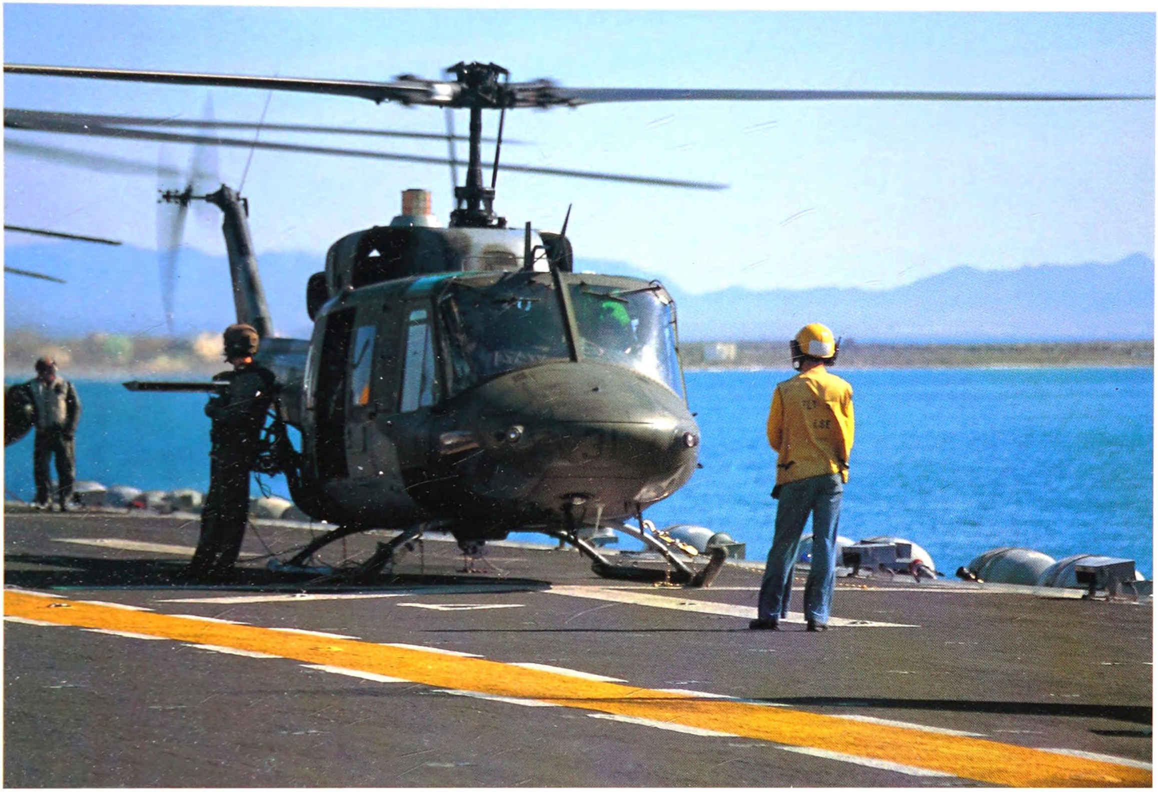
SAR

JET
3
RESCUE
CARGO HOOK
MAX. LOAD
5000 LBS
ABANDON
CHUTE



Above The US Marine Corps operates about 85 UH-1Ns, mostly in the transport role. When the time comes to 'hit the beach', the jeep in the foreground would be carried by the Huey as an underslung load, or inside the much larger CH-53

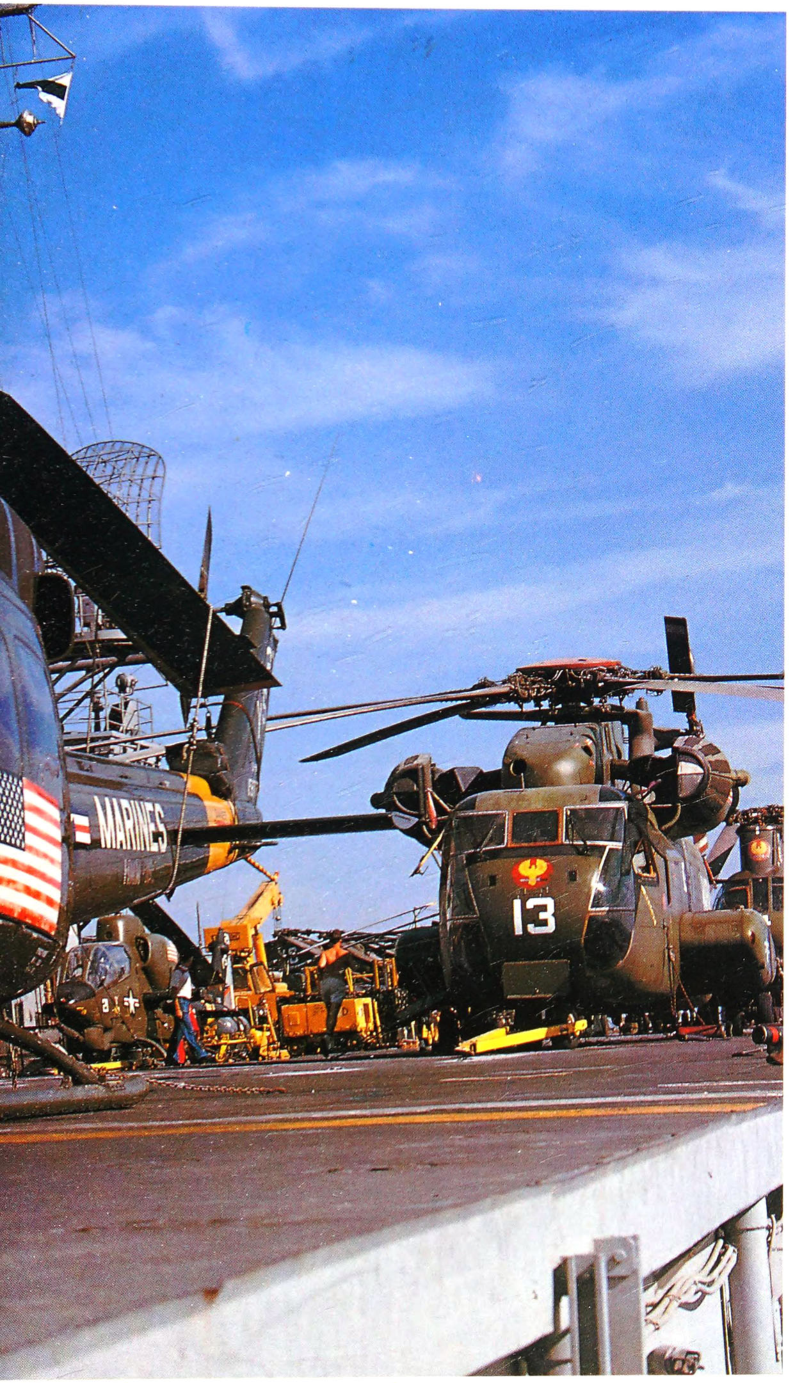
Left One more heave and the stokes litter slides comfortably into the Hueys roomy main cabin. The training schedule for the US Navy's rescue crews is of necessity very demanding; separate 14 day, 30 day, semi-annual and annual training tasks must be completed for the pilots to remain SAR qualified *(Tony Holmes)*



Above In addition to transport duties, Marine Corps UH-1Ns often assume the role of 'plane guard' for flying operations. At sea, a pair of Twin Hueys usually form part of a composite unit with a dozen CH-46Es, four CH-53s and four to six AH-1 SeaCobras and, if required, six AV-8B Harrier IIs. This is one of three UH-1Ns and four AH-1Ts from HMLA-167 'Warriors' which were attached to HMM-264 as part of Marine Expeditionary Unit 24 aboard LPH-7 during a western Mediterranean cruise in February 1991

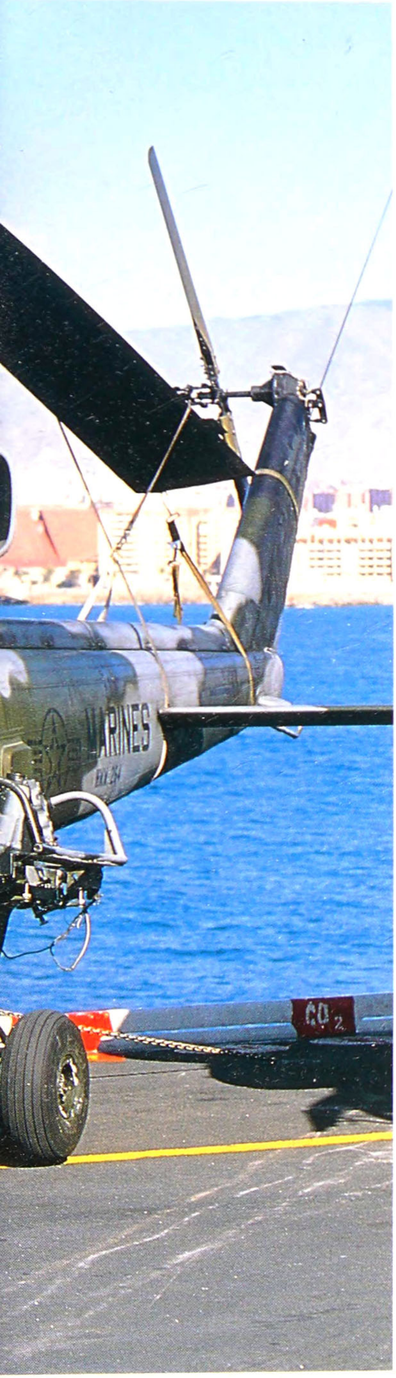
Left Photographed on 15 April 1986, this US Marine Corps UH-1N Twin Huey is ready to start engines at NAS Cherry Point *(David Hathcox/Arms Communications)*

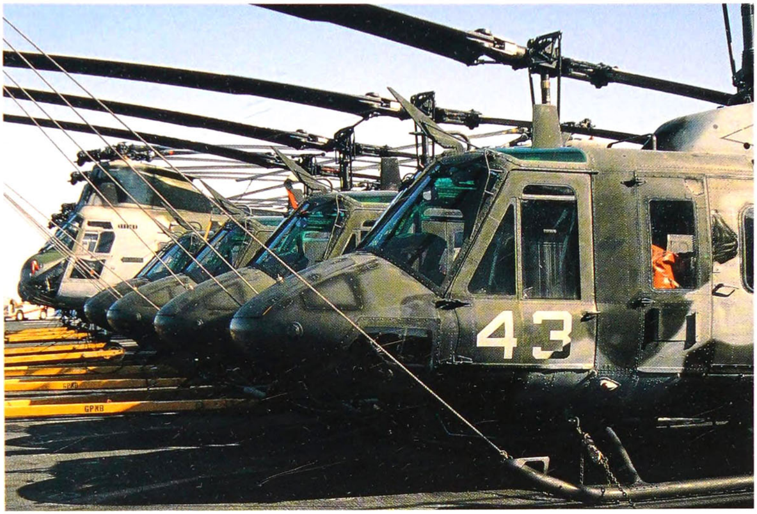
25
25
RESCUE
1



Resplendent in overall gloss green, a Marine Corps' UH-1N mingles with CH-46E Sea Knights and a CH-53 (right) on the flight deck of the USS Guadalcanal (LPH-7)

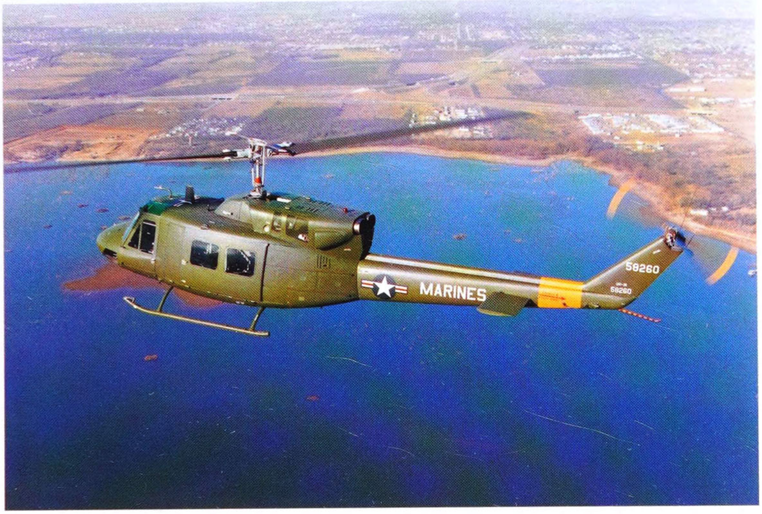
32
JET DANGER INTAKE





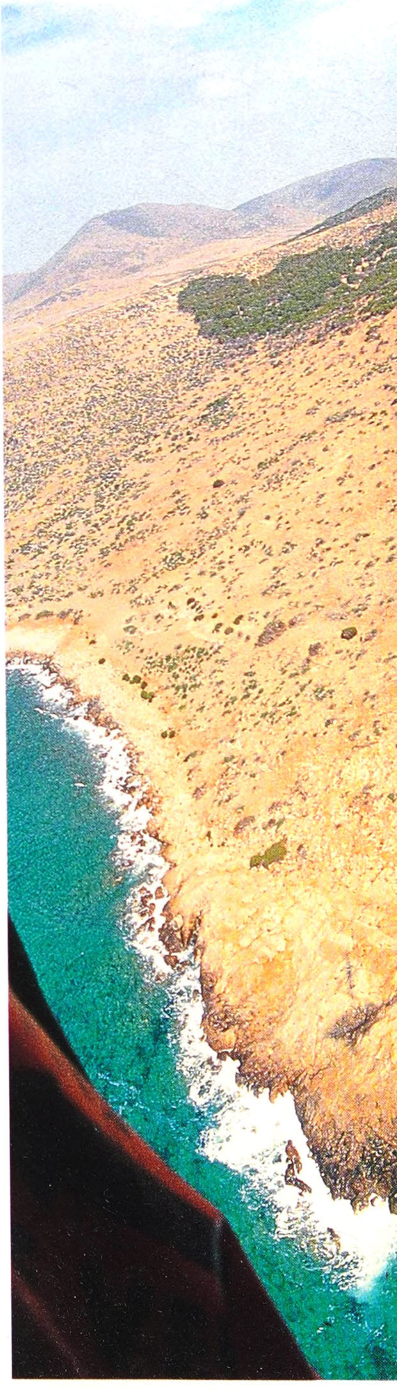
Above The Twin Huey at the head of this line up has a similar wrap-around scheme, but with the 'last two' of its bureau number repeated in white on the crew doors. The CH-46 in the background is one of over 340 E-model 'Frogs' delivered to the Marines

Left Secured to the deck, this Marine Corps' UH-1N displays the three tone wrap-around camouflage scheme of grey, field green and black with black insignia and codes



Above UH-1N 58260 will shortly be delivered from Bell to the Marines after completing this combined flight-test and photo-call. *(Bell Helicopter)*

Right The Marines always get the most out of their equipment and the UH-1N is no exception. Although the 'Green Machine' has over 165 AH-1 SeaCobra attack helicopters, the Twin Huey gunship can also pack a worthwhile punch if more air support is required. Draping the ammunition belt over his forearm, the door gunner is engaging an imaginary target with an M60 off the Sardinian coast in September 1989 *(Agostino van Hassell/Arms Communications)*

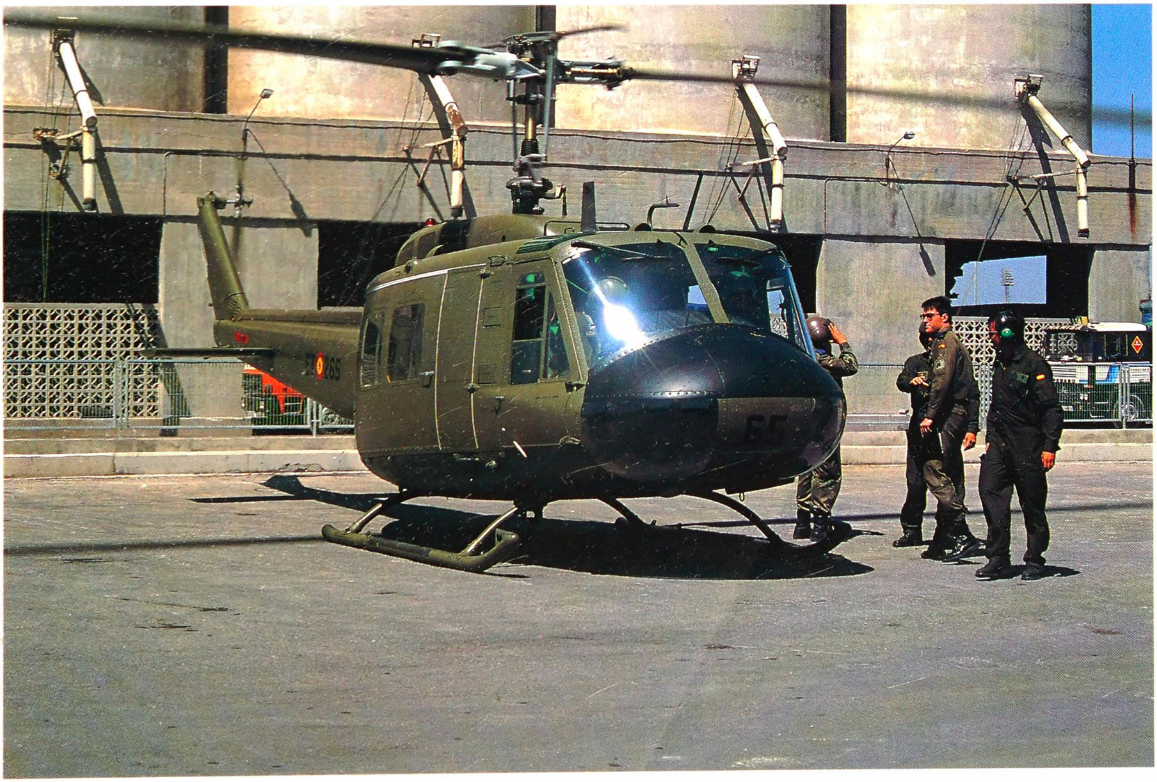


38

Spanish Hueys

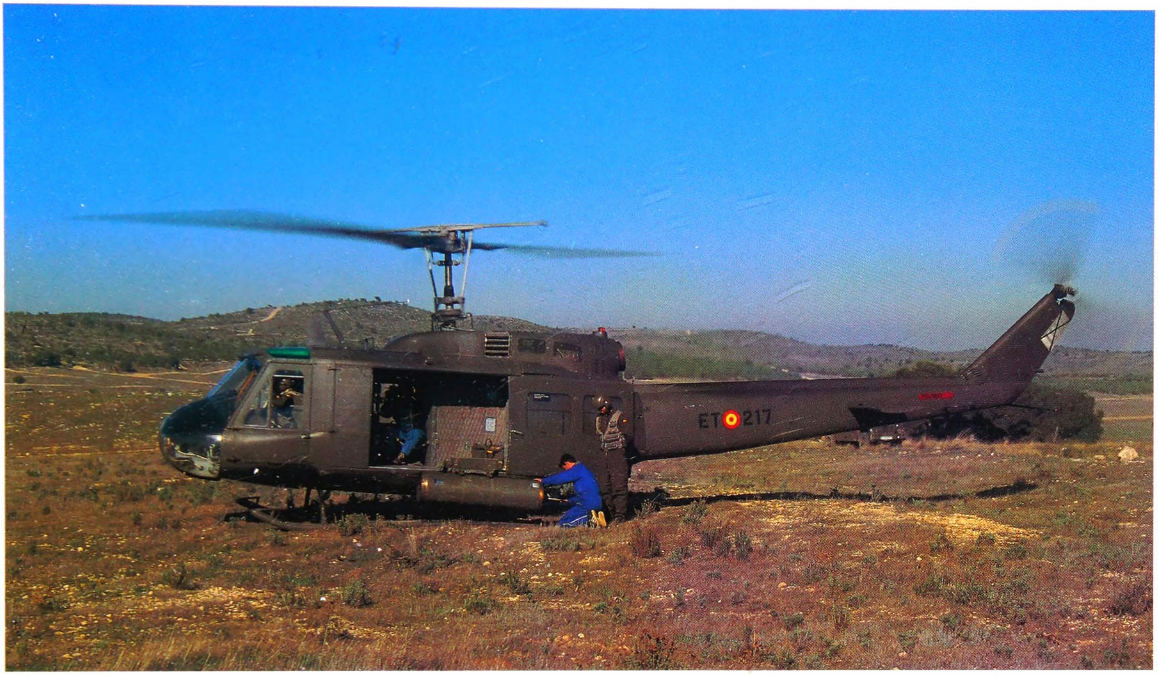
Left Pilots Capt Mendez and Lt Palau demonstrate how to fly the assault mission in their UH-1H. Due to their slow speed and mechanical complexity as compared to fixed-wing aircraft, helicopters will always be vulnerable to well-aimed bursts from light automatic weapons, let alone radar-directed anti-aircraft artillery ('Triple-A') or man-portable SAMs such as the Soviet SA-7 or American Stinger. But you can't shoot what you can't see, which is why the key to keeping your Huey in one piece in and around the modern battlefield is to fly nap of the earth (NOE), skimming the treetops and hiding behind hills. Pintle-mountings for the MG3 machine gun are fitted ajacent to the main cabin doors

Below The Spanish army aviation corps (Fuerzas Aeromoviles del Ejercito de Tierra, or FAMET), depatched five UH-1H Hueys and a pair of C.414 (CH-47) Chinooks from early May until late 1991 as part of the multinational Kurdish relief effort on the borders of Turkey and northern Iraq known as Operation Provide Comfort/Haven. The Spanish chose the code-name High Tigris for their part in the operation, in which Hueys of the Kurdish Task Force were used to support a specially reinforced parachute battalion as well as medical/communications teams and engineers. This force deployed to Silopi in Turkey and had a forward operating base at Dohuk in northern Iraq



ET 214
14

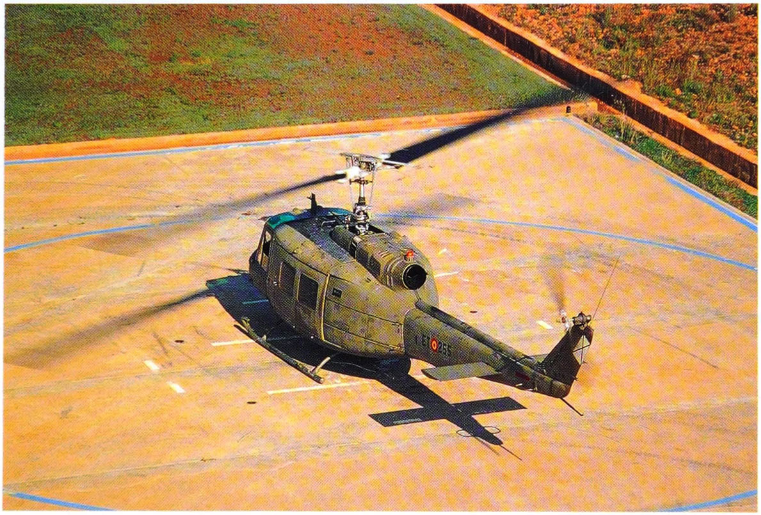
78 64



Above Watched by the Huey's crew chief, a weapons specialist attends to the unfired 2.75 inch (75 mm) rockets which remain in the M200 rocket pod. The work is being carried out in the de-arming area on the Chinchilla army exercise range. After the rockets have been made safe, the immaculate (newly repainted) ET-217 can lift off for the bivouac

Above left Caught in the hover immediately before touchdown, ET-214 arrives on the quayside at the port of Valencia prior to being embarked on the RO/RO cargo ship Arroyo Frio 1. The Hueys and Chinooks of the Kurdish Task Force were landed at Iskenderun in Turkey. Incidentally, ET-214 decodes into FAMET (ET), utility helicopter (2), individual aircraft number (14); Army Hueys are serialled ET-207 through ET-267

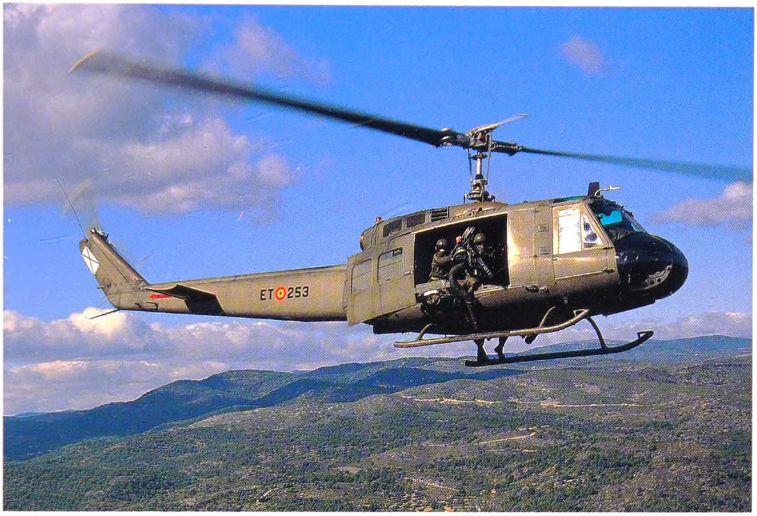
Left Until replaced by the Aerospatiale SA.330 Super Puma, the Agusta Bell AB.205A was the standard search and rescue (SAR) helicopter of the Spanish air force (Ejercito del Aire). Based at Armilla AB in Granada, the AB.205s are now operated by Ala 78, the unit responsible for training the rotary-wing pilots of all three Spanish air arms *(Gonzalez)*



Above UH-1H on the pad at Betera army helicopter base, some 30 km north of Valencia; this modern, purpose-built installation was completed in 1979. This overhead view reveals the Huey's 'tadpole' fuselage/boom configuration. FAMET has operated the Bell UH-1H since 1971, a total of 60 aircraft being supplied by the Texan helicopter giant. At the time of writing 55 'Hotels' remained on strength, forming one quarter of FAMET's helicopter assets

Right ET-254 hovering over the lake formed by the Recajo dam in eastern Spain. This Huey is one of eighteen UH-1H 'Hotel' models (designated HU.10B by the Spanish army), forming two Medium Transport Companies, each with two sections and each section flights, operated by BHELMA II (Batallon de Helicoptereros de Maniobra II). The unit received its first six UH-1Hs in August 1971, and spent the next four years as part of the air component in what was formerly the Spanish Sahara

ET254

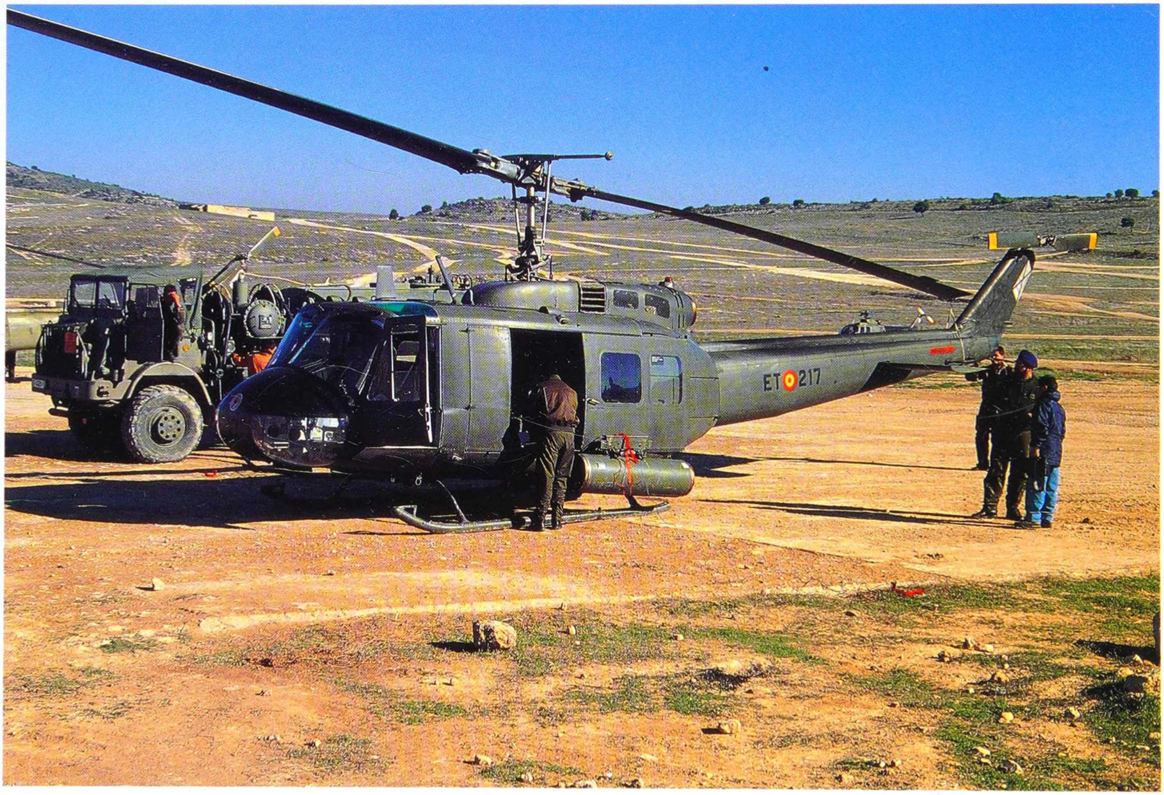


Above Gunship ahoy! The gunners aboard ET-253 need their heavy flight coveralls as it can be more than a little draughty with the cabin doors open, even in sunny Spain

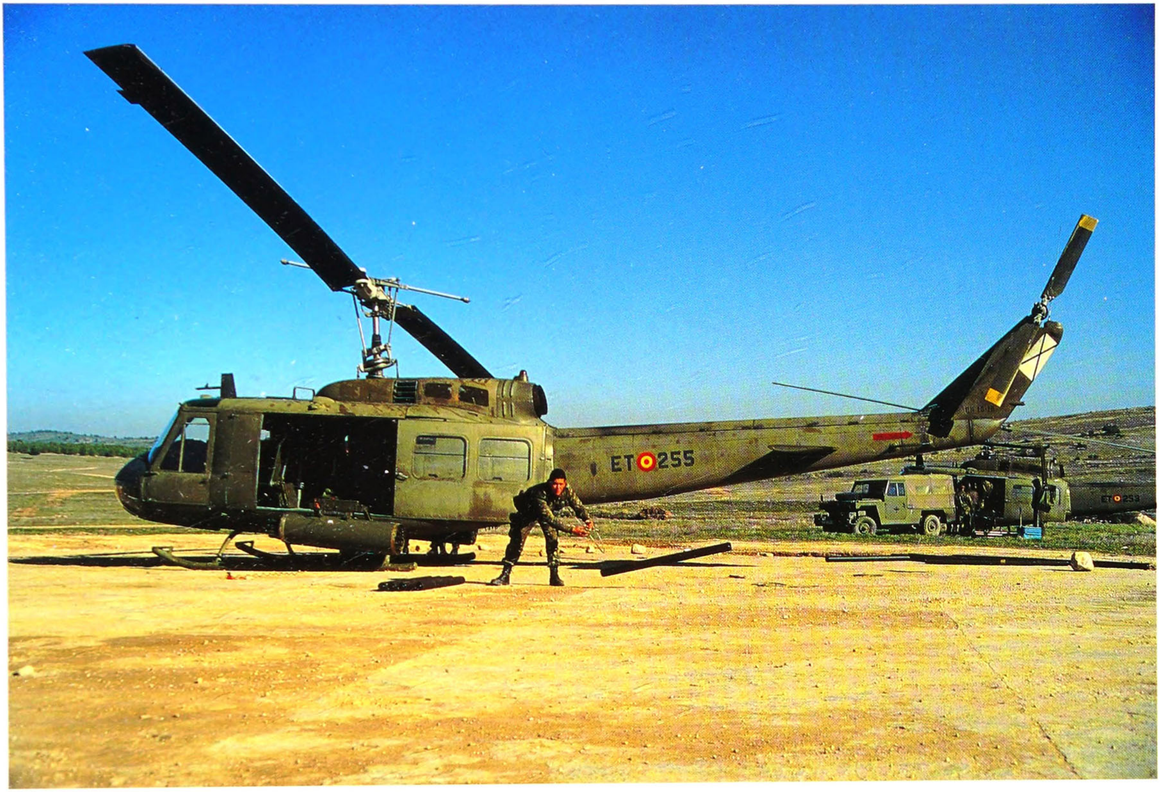
Left The UH-1H can be configured as a gunship with machine guns, grenade launchers, rocket pods or, as here, with two M134 miniguns. A huge tube is needed for the spent cartidge cases as the M134 is capable of firing 6000 rounds of 7.62 mm ammo per minute, although the 'slower' 4000 rpm rate is usually selected so as to prolong barrel life. The ammunition bin located just in front of the main cabin bulkhead has a capacity of 12,000 rounds

Above The light, compact and powerful T53 turboshaft enabled the Bell design team to mount the powerplant along the roofline and give the Huey a large, easily accessible main cabin and cockpit. The UH-1H can accommodate one or two pilots and up to 14 fully equipped troops

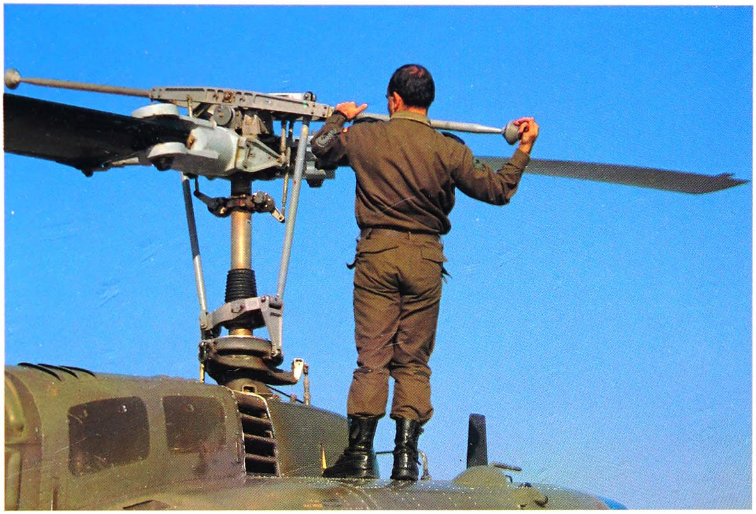
Left The rather lighter and considerably more economical MG3 general purpose machine gun (GPMG) is carried as a self-protection weapon by the 'slick' troop carrying Hueys. Derived from the classic 7.92 mm MG42 of WW2, the German MG3 is built under licence in Spain by SANTA BARBARA and consumes NATO 7.62 mm ammunition (from 200-round boxes) at 900 rdpm. Highly regarded for its reliability, the MG3 has an effective range of 3830 yd (3500 m)



ET-217 being refuelled prior to some rocket firing practice on the Chinchilla range with ET-255 (next photo). The UH-1H can fly 318 miles (512 km) with maximum fuel



This low angle view of ET-255 accentuates the size of the rotor blades, which when turning have a length of 57 ft 9.6 in (17.62 m). Other dimensional statistics of the UH-1H include a fuselage length of 41 ft 10.75 in (12.77 m), a height overall of 14 ft 5.5 in (4.41 m) and a width over skids of 9 ft 6.5 in (2.91 m)

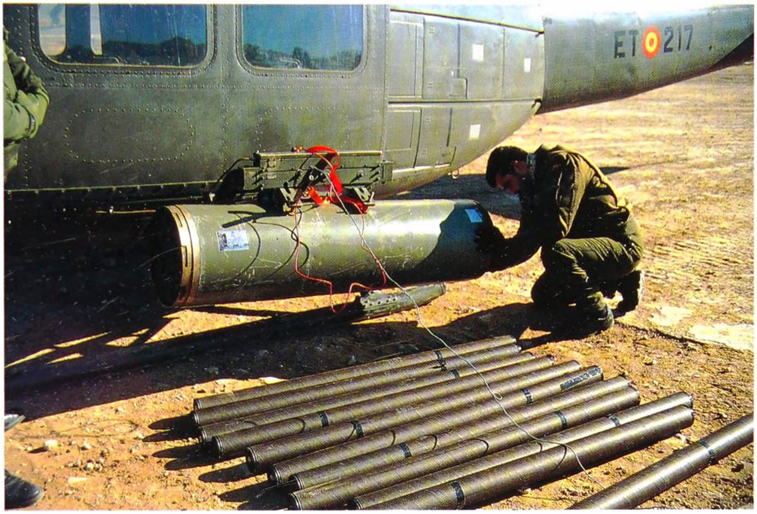


Above Capt Emilio Mendez inspects the rotor stabilising bar ...

Left ... and the blade pitch control rods during a thorough preflight check of the rotor dynamic components. He will have also scrutinized the semi-rigid rotor head, blade root attachment joints, blade pitch control rods, main rotor mast and rotor head swashplate. Day-to-day maintenance is performed by the engineering company at Betera, while more serious retification work is carried out by the centralized base at Colmenar, Madrid. Major overhauls of the over 100 Hueys operated by the Spanish air force, army and navy is the responsibility of AISA, a civilian company based near Madrid

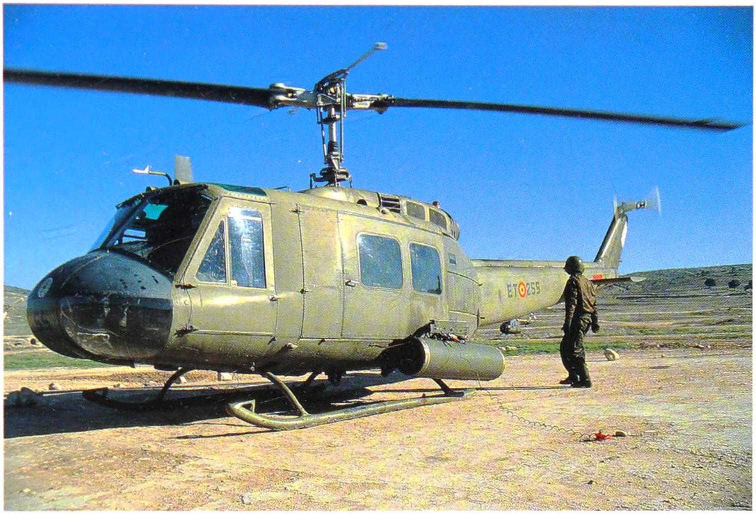
Above Portrait of Sgt Cavedo, an instructor with BHELMA II, before he climbed aboard ET-255 – the Huey reflected in the visor of his flight helmet together with photographer Salvador Mafe Huertas. About half of the pilots serving with FAMET are non-commissioned officers (NCOs)

Left Infrared missile's eye view of the engine exhaust nozzle; before sending their 'Hotels' into harm's way the Spanish army would almost certainly consider replacing the red anti-collision beacon with an IR jammer such as the ALQ-144 'disco lights' system fitted to many Cobras and Hueys in service with the US Army and Marine Corps



Above Loading 2.75 in (70 mm) HE rockets into the M200 pod carried by ET-217. The rockets are protected by weather proof containers before being inserted into the pod, which can carry 19 rounds. Arming wire is placed in the rear of each rocket to ignite the solid propellant when the firing button is pressed

Left Cockpit view of the UH-1H reveals the collective pitch control lever next to the co-pilot's crashworthy seat (fitted with ceramic armour side-panels), cyclic pitch control column and instrument panel; the device fitted to the central pedestal is a state-of-the-art distance measuring equipment (DME) receiver



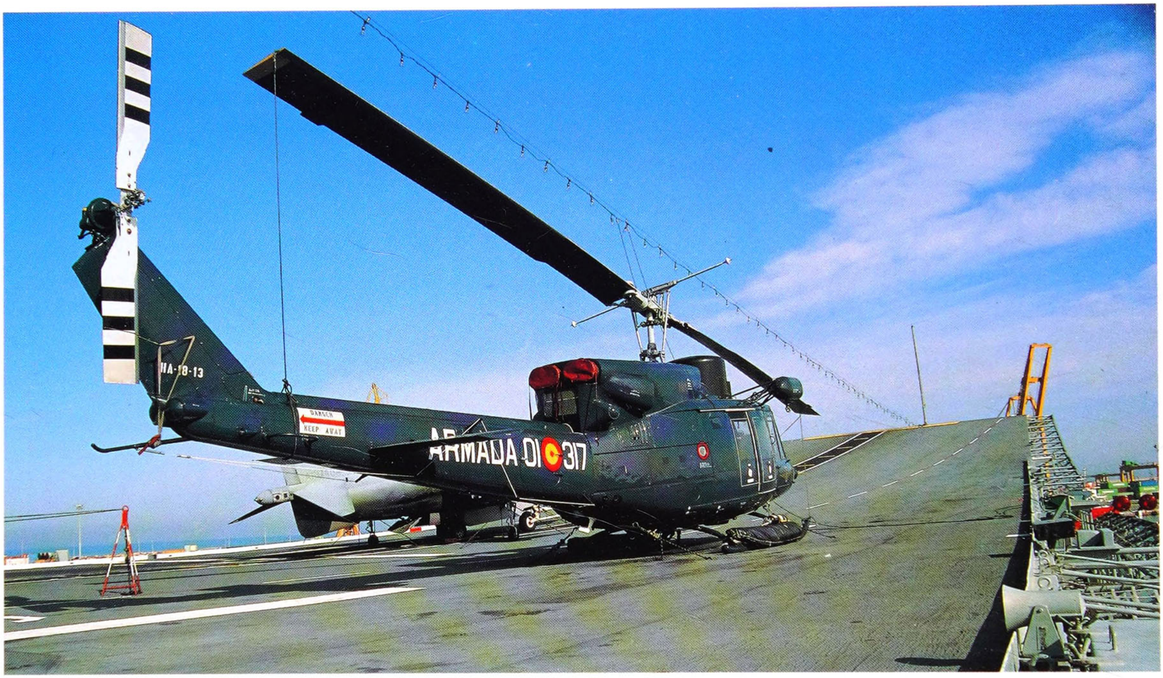
Above The crew chief of ET-255 performs the post-landing safety checks after a spot of rocket firing practice on the Chinchilla range. A discharge line has been placed on the ground next to the helicopter so as to disperse potentially dangerous amounts of static electricity to Earth – not into the firing circuit of the rocket pod! One of BELMA II's six MBB Bo.105 light reconnaissance helicopters is visible under the tailboom of ET-255

Left Using his M60A1 reflector sight, the pilot/gunner looses off a pair of rockets at the turretless hulk of an M41 tank. Today it would be difficult to take the Huey seriously as an anti-tank helicopter (especially armed with unguided projectiles), but it was very different when the North Vietnamese invaded South Vietnam in the spring of 1972. For the first time in what had largely been a guerilla war against the Americans, the North Vietnamese Army used large numbers of armoured vehicles to roll up the defences. The armoured assault was blunted by the swift deployment of two US Army UH-1Bs which up to that time had been engaged in trials with the XM-26 TOW missile system in America and Germany. Of the first 89 missiles fired, no less than 73 scored hits, destroying at least 26 tanks, including Soviet-supplied T-54s and PT-76s. The remarkable combat debut of the Huey/TOW combination led directly to the development of the Bell AH-1 Cobra attack helicopter

ET 257

Above ET-257, a UH-1H of BELMA II, thump-thump-thumps above an autumn Mediterranean pine forest. BHELMA II's operational area covers eastern Spain and the Belearic Islands. Almost constantly deployed on detachments and exercises, the unit also operates in support of the civilian population during emergencies such as floods or forest fires

Left After Switzerland, Spain is the most mountainous country in Europe, so the pilots of BELMA II have to be proficient at perching their Hueys at high altitudes – in this case next to a navigation beacon and a religious monument. The hovering ceiling (in ground effect) of the UH-1H is 13,600 ft (4145 m)



Above Parked facing the 12-degree ski-jump of the aircraft carrier Principe de Asturias, 01-317 is one of sixteen Agusta Bell AB.212ASWs acquired by the fleet air arm (Arma Aerea) of the Spanish navy. The AB.212ASWs are currently used as troop transports by the Spanish marines (the APS-705/6 anti-submarine search radar having been removed), and for liason, carrier on-board delivery (COD) and plane guard duties. Designated HA.18 (Attack Helicopter Type 18), all of Spain's maritime Twin Hueys serve with 3a Escuadrilla based at Rota naval air station and form an integral part of the Carrier Air Group along with the AV-8B Harrier IIs of 9a Escuadrilla

Above right Spanish navy AB.212ASWs are finished in an attractive gloss sea blue scheme with gold fleet air arm 'wings' applied to the doors for pilot and co-pilot

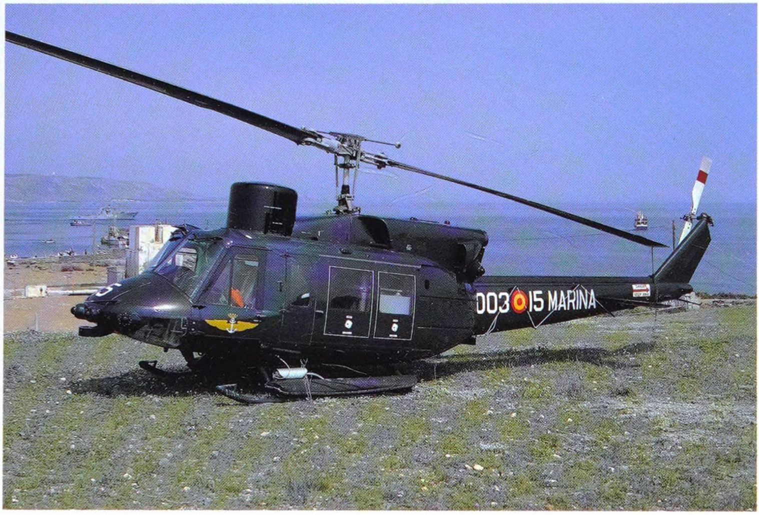
Right AB.212ASW coded 003-9 prepares to lift-off from Rota NAS. External features include the (empty) radar radome fitted on the cabin roof, the rescue winch mounted above the main cabin doors (starboard side only) and the emergency floats attached to the landing skids

MARINA 003 9
9

MARINA 003 15
DANGER
KEEP AWAY

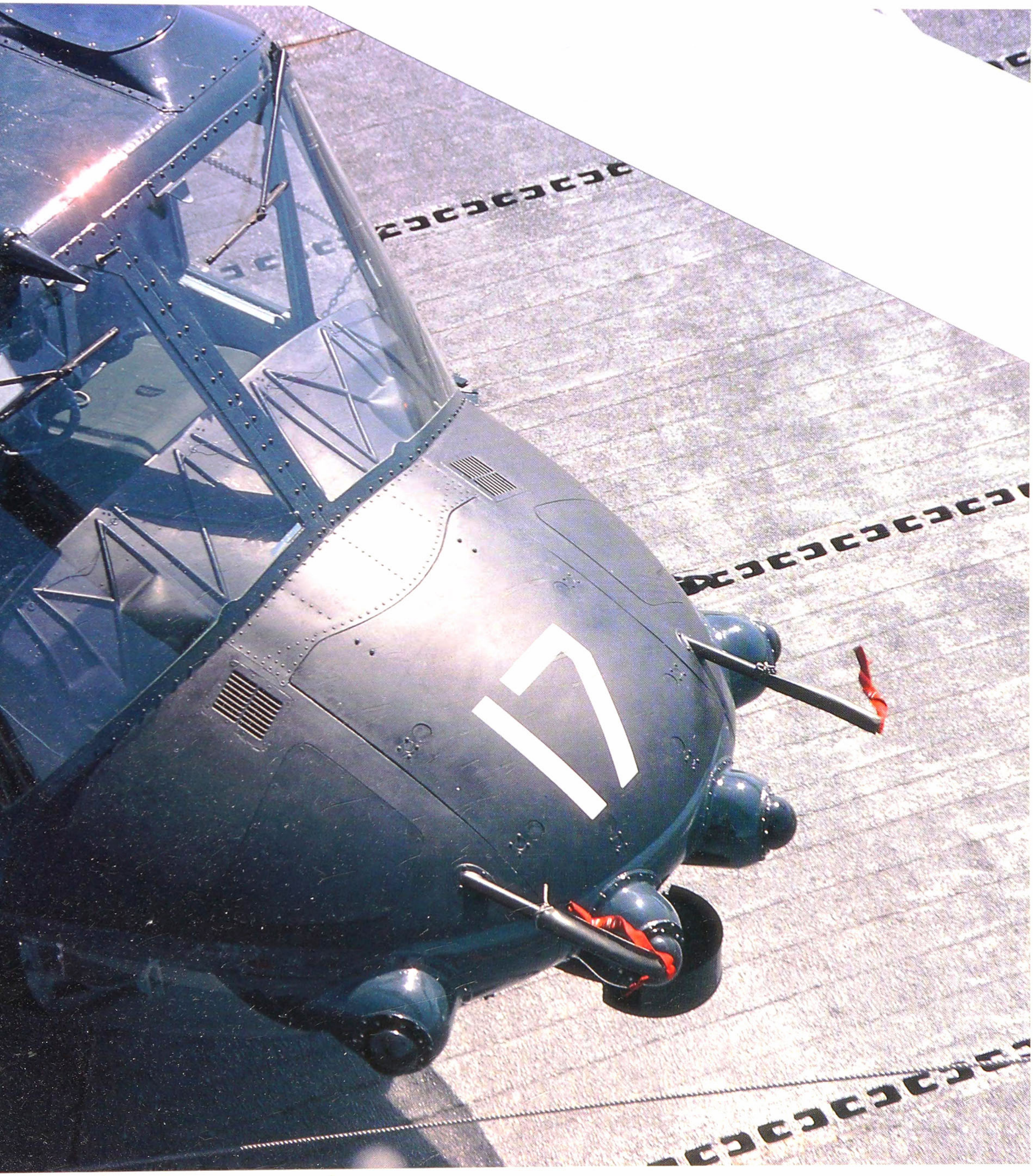
Above Dusk begins to envelope the Dedalo as 003-15 sets forth on a surveillance mission ahead of the carrier's intended course. The venerable Dedalo was supplanted by the purpose-built V/STOL carrier Principe de Asturias in 1989

Left Chain gang: 003-15 is secured to the wooden deck of the carrier Dedalo (ex-USS Cabot) during operations in the western Mediterranean. The AB.212ASW is powered by the same1800 shp (1342 kW) Pratt & Whitney Canada PT6T-3 Turbo Twin Pac installed in the UH-1N and civil Model 212 Twin Two-Twelve



Above Another view of 003-15, this time displaying is superb finish on Tabarca Island off Alicante in March 1982. The Twin Hueys of 3a Escuadrilla use the callsign 'Gato'(Cat) *(R Trevino)*

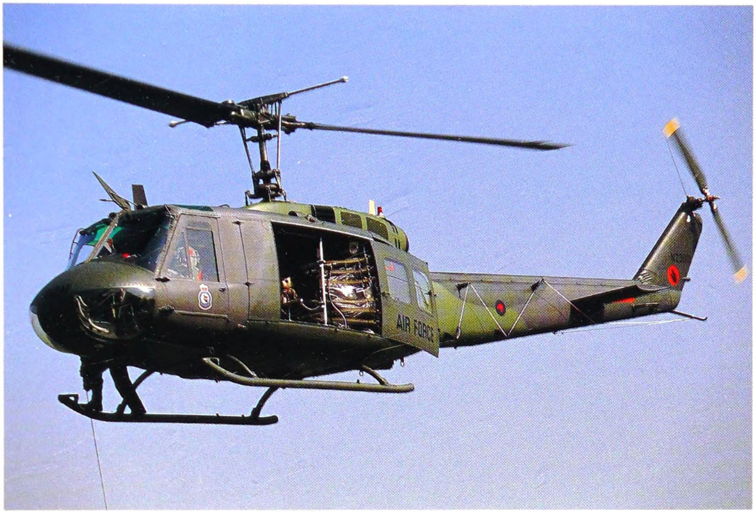
Right Spooky Huey: blister-antennae on the nose of 003-17, one of four AS.212ASWs equipped with electronic warfare devices. A rather more mundane observation is that windscreen wipers come as standard on all Hueys, but are essential for the naval versions – otherwise salt deposits would soon begin to reduce visibility when flying at low-level over the sea


17

Other foreign operators

Poised for landing at Middle Wallop in Hampshire during the July 1990 International Air Show is a UH-1D of the German army aviation corps flying school (Heeresfliegerwaffenschule) based at Buckeburg. The army received at total of 204 'Deltas'; these machines, together with a further 142 UH-1Ds for the Luftwaffe, were built under-licence by Dornier at their Oberfaffenhofen-plant near Munich between August 1967 and January 1971. Chugging along in the background is a 1950s vintage Saro Skeeter AOP.12 (64 built) formerly used for artillery spotting and training tasks by the British Army Air Corps and now preserved by the AAC Historic Flight at Middle Wallop *(Tony Holmes)*

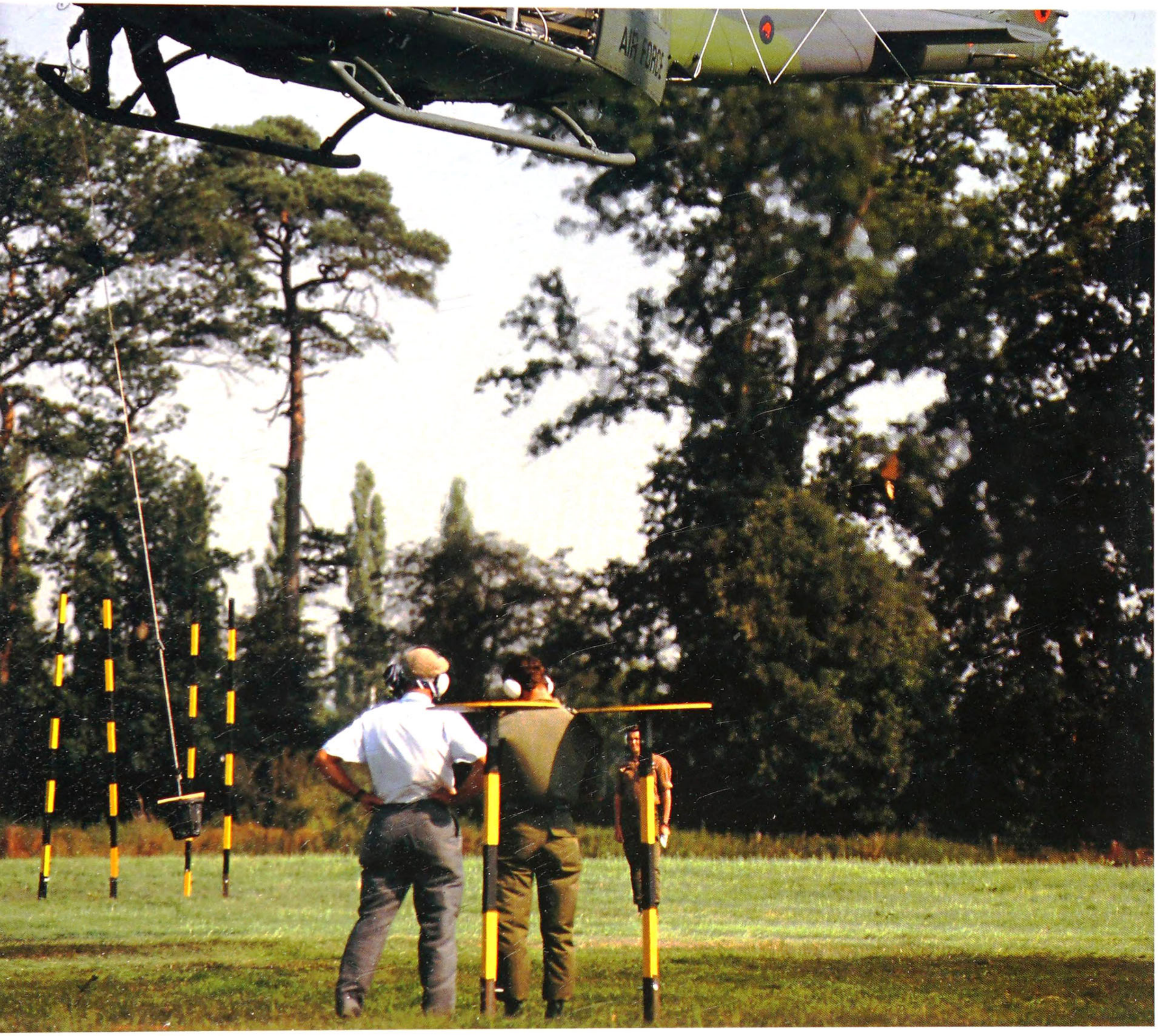
HEER
71 98



Above Having retired its UH-1B/Ds, the Royal New Zealand Air Force now only operates the UH-1H variant. Equipping No 3 Sqn and serialled NZ3801 to 3815, the Kiwi's Hueys are based at Wigram for Army support and SAR duties; in the recent past they were also used by the New Zealand Force South East Asia at the former RAF base of Tengah in Singapore. Acquired in 1967, the force began to suffer from tail spar cracks in the late 1980s, resulting in a grounding order; this particular airframe had only recently been re-spared prior to being despatched to Middle Wallop in July 1990 for participation in the International Air Show. Still a long way from home, the Huey is competing in the gymhkana at the 1990 Helimeet held at Broadlands, Hampshire *(Tony Holmes)*

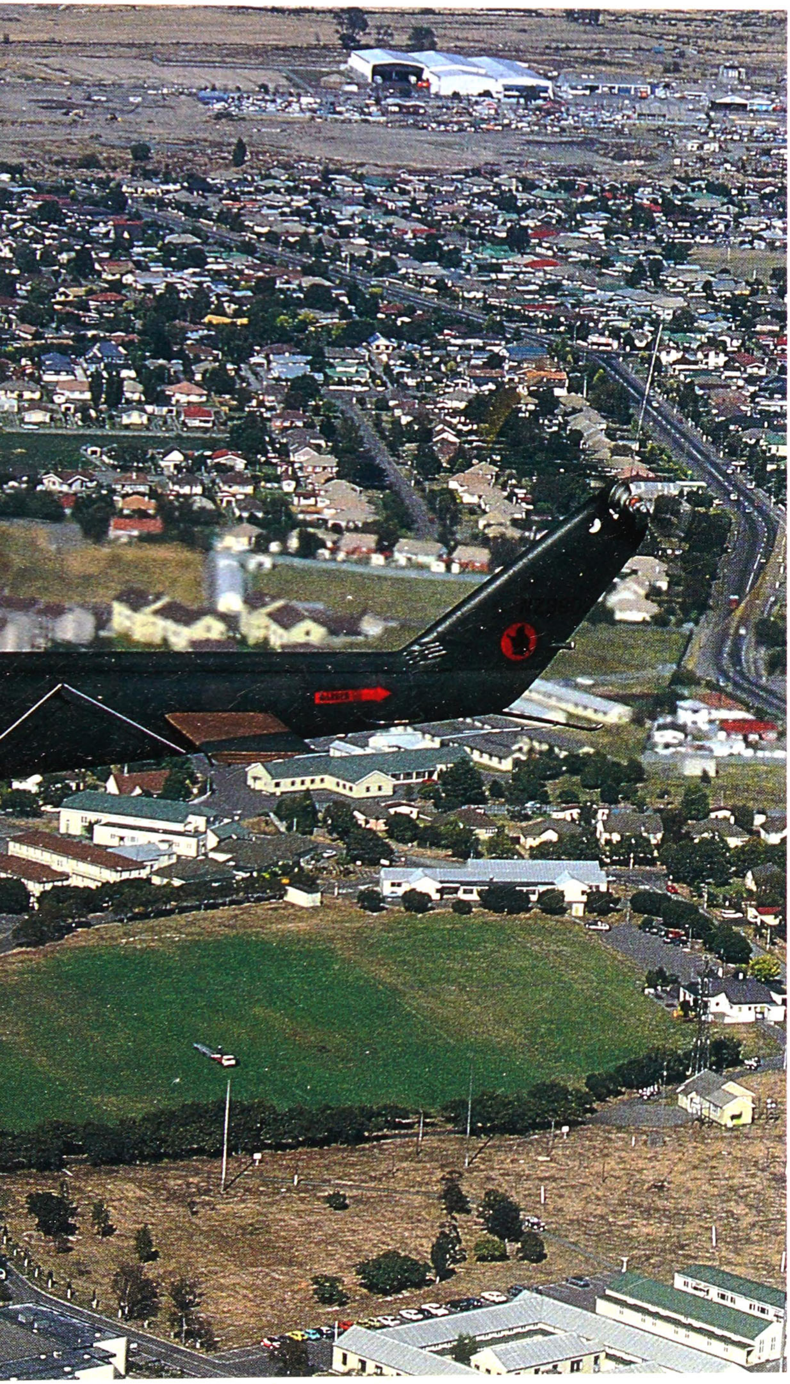
Left Also based at Buckeburg is 71+98, a UH-1D wearing dayglo (rescue) paint over its otherwise standard tactical scheme. German army UH-1D Iroquois equip three light transport regiments (Leichtes Heeresflieger Transportregiments 10, 20 and 30), the flying school and Heeresfliegerregiment 6. A few serve with Est 61 for testing purposes. A further sixteen UH-1Ds were delivered to the Federal German border police (Bundesgrenzschultz), bringing to total of Dornier D-models up to 360, the largest number of licence-built UH-1s to date

AIR FORCE

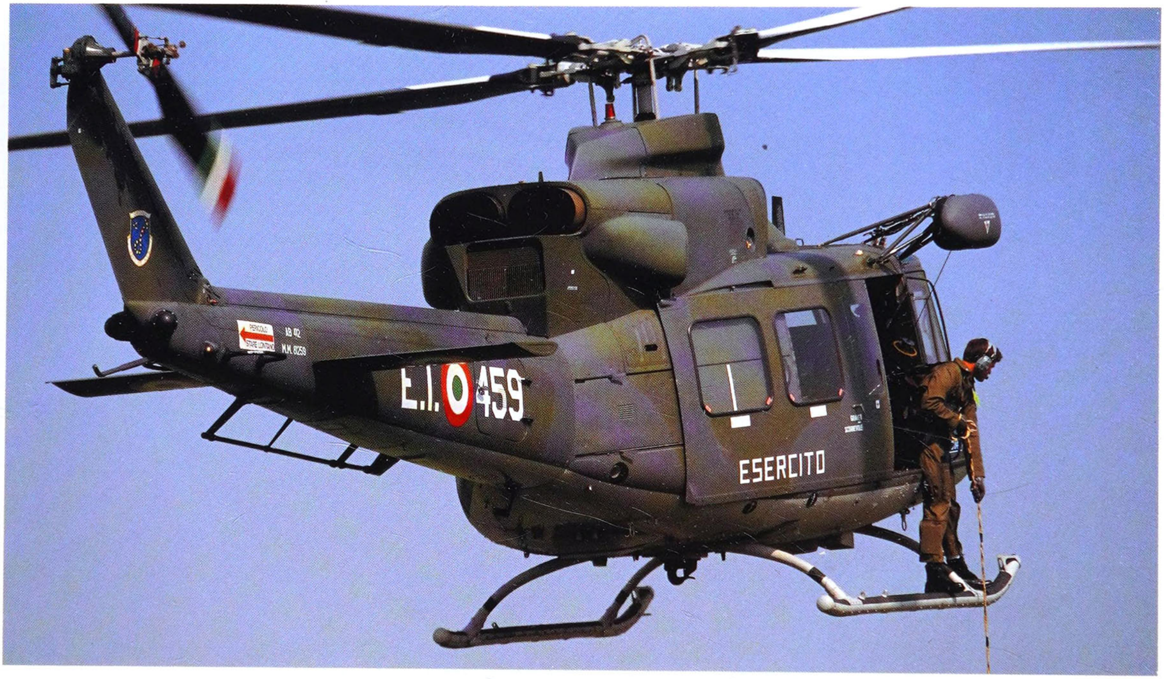


The gymhkana at the 1990 Helimeet: communicating with the pilot using the headset, the crewman standing on the landing skid of this RNZAF UH-1 is guiding a bucket of sand through an obstacle course using the standard left-a-bit, right-a-bit technique; the object of the exercise being to arrive at the finish with as much sand remaining in the bucket as possible. For the record, the overall winners of the competition came from No 72 Sqn, British Royal Air Force, flying a Westland Wessex HC.2
(Tony Holmes)

AIR FORCE



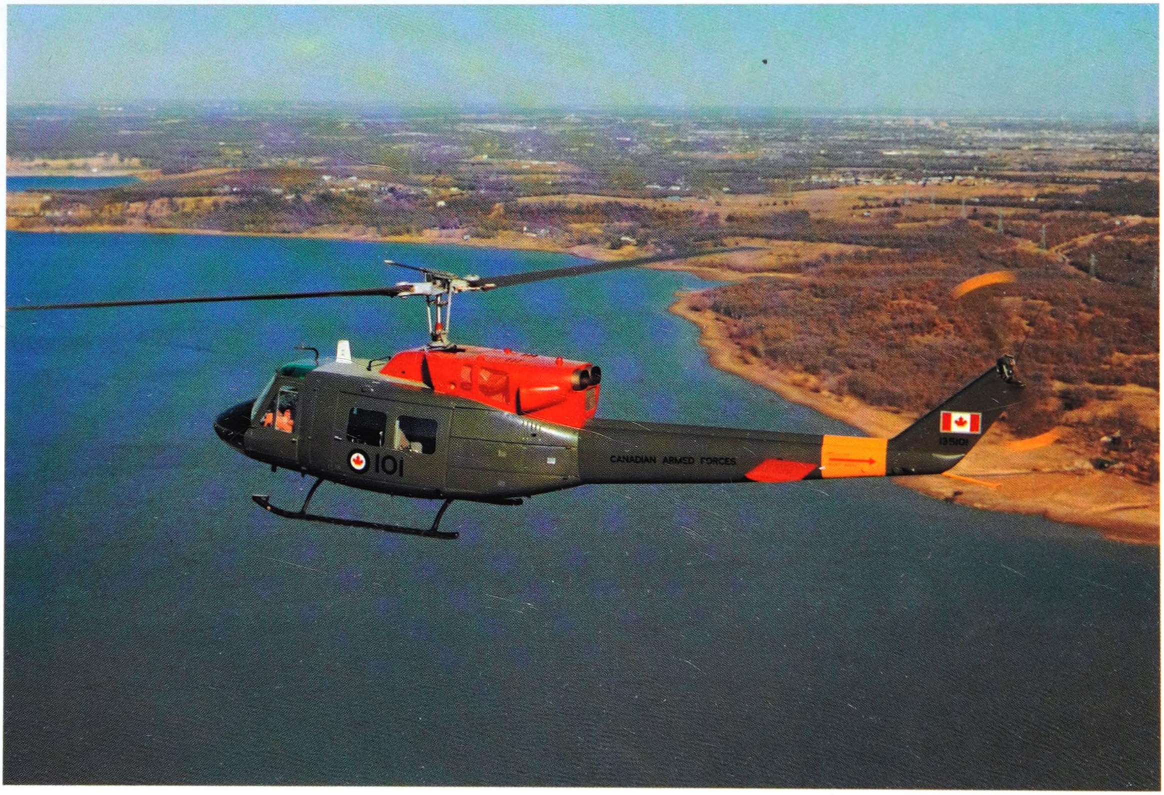
Normally located at RNZAF Base Hobsonville, this Kiwi UH-1H of No 3 Sqn is rotary-winging its way above Wigram, where the unit maintains a detachment. Of interest is the old-style camouflage retained on the Huey's forward fuselage *(Peter Steinemann/Skyline APA)*



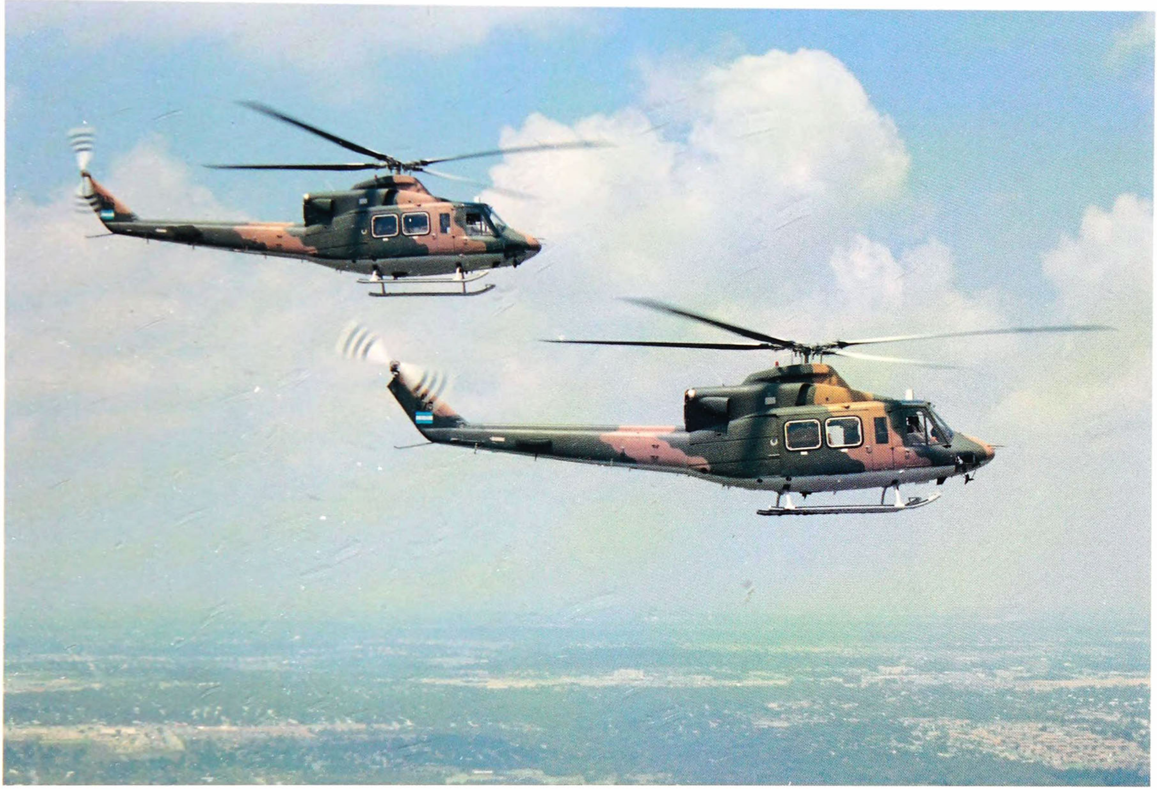
Mama mia! This Agusta-Bell AB.412 Griffon of the Aviazione Leggara dell'Esercito Italiano (ALE) also competed in the gymkhana at the 1990 Helimeet, the crewman on the landing skid no doubt giving un-po'-a-sinistre, un-po'-a-destra instructions to the pilot. The Griffon is Agusta's own multi-role military version of the four-blade Model 412, and is comprehensively equipped with survivability features and mission avionics, including electronic warfare equipment if required. In aggressive guise the Griffon's weapon options include a swivelling turret for a 12.7 mm machine gun, two 25 mm Oerlikon cannon, four or eight TOW anti-tank missiles, or two launchers each with nineteen 2.75 in or twelve 81 mm rockets. For maritime attack, the Griffon is compatible with Sea Skua or Penguin air-to-surface missiles. MM81259/EI-459 is one of about 20 Griffons in service with the ALE, Carabinieri and Special Civil Protection fleet; export customers include the air force of Zimbabwe, the Ugandan army and Finnish coastguard *(Tony Holmes)*

C 842
GIRARE
TIRARE
GIRARE
SCORREVOLE
ESERCITO

459
C 842
ESERCITO
E.I 459



Factory fresh CH-135 (CUH-1N) of the Canadian Armed Forces; this machine (135101) was the first of 50 Twin Hueys accepted from Bell on 3 May 1971. Primarily tasked with SAR and transport duties, the CH-135s are supplanted by nine CH-118s (UH-1Hs), these Iroquois having seen extensive service in the Middle East with United Nations' multi-national peacekeeping forces *(Bell Helicopter)*



Pre-delivery portrait of FAH-972 and FAH-973 in 1986, two of the ten civil 412SP (Special Performance) models delivered to the Honduran air force (Fuerza Aerea Hondurena) as part of a US aid package initially aimed to help counter guerilla operations from neighbouring Nicaragua. Honduras has also received a mix of UH-1B/Hs *(Bell Helicopter)*

A Model 212 Twin Two-Twelve destined for the Mexican air force (Fuerza Aerea Mexicana) shows off its attractive paint scheme outside the Bell plant at Fort Worth. Another 212, still in primer paint, is just visible in the background as it flares for landing. HBR-1181 serves with the Presidential Air Transport Squadron at Mexico City International Airport. Production of the Model 212 was transferred to Bell's Canadian factory at Mirabel, Quebec, in mid-1988. A handful of 205A-1s are operated by the air force, and the navy has a pair of UH-1Hs for transport and SAR *(Bell Helicopter)*

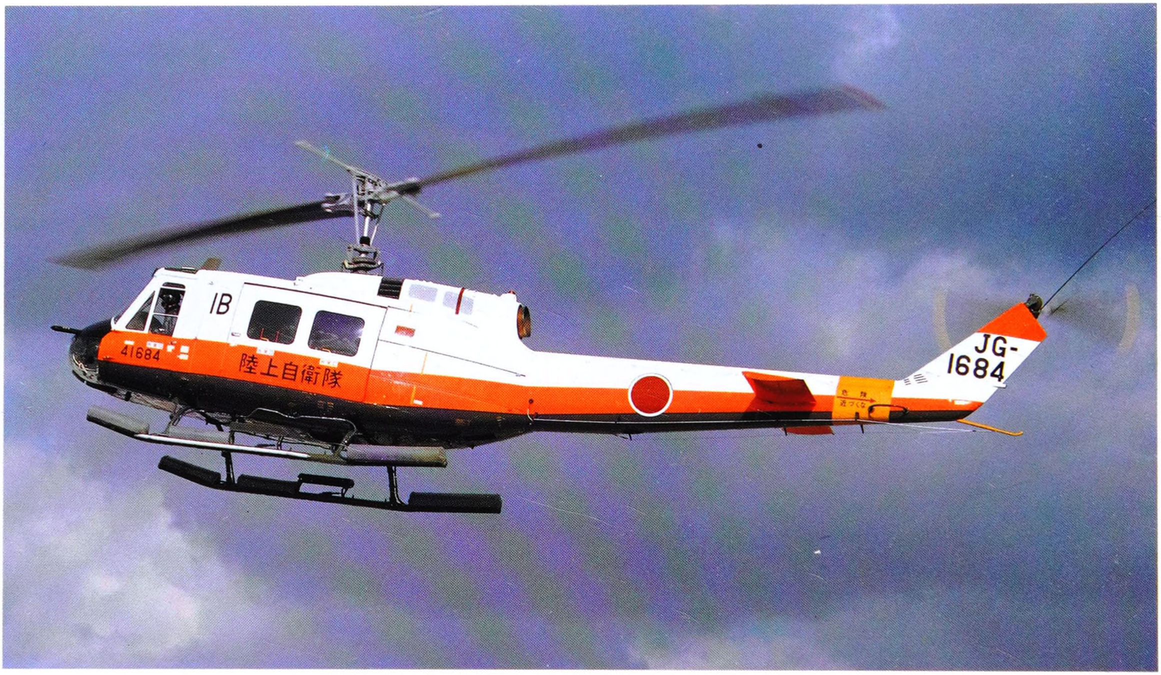
FUERZA AEREA MEXICANA
HBR-1181

FÔRÇA AÉREA BRASILEIRA
SAR

Brand new UH-117 (UH-1H) for the Brazilian air force (Forca Aerea Brasileira), proclaiming its SAR role deep in the heart of Texas. Brazil operates over 50 UH-1D/H models, including a small number of ex-Israeli machines *(Bell Helicopter)*

AMDB 116
TO
BAHAYA

Left Based at Berakas Camp, the Model 212 Twin Two-Twelves of No 1 Sqn, Royal Brunei Armed Forces – Air Wing, are kept busy in the transport, medevac and SAR roles *(Peter Steinemann/Skyline APA)*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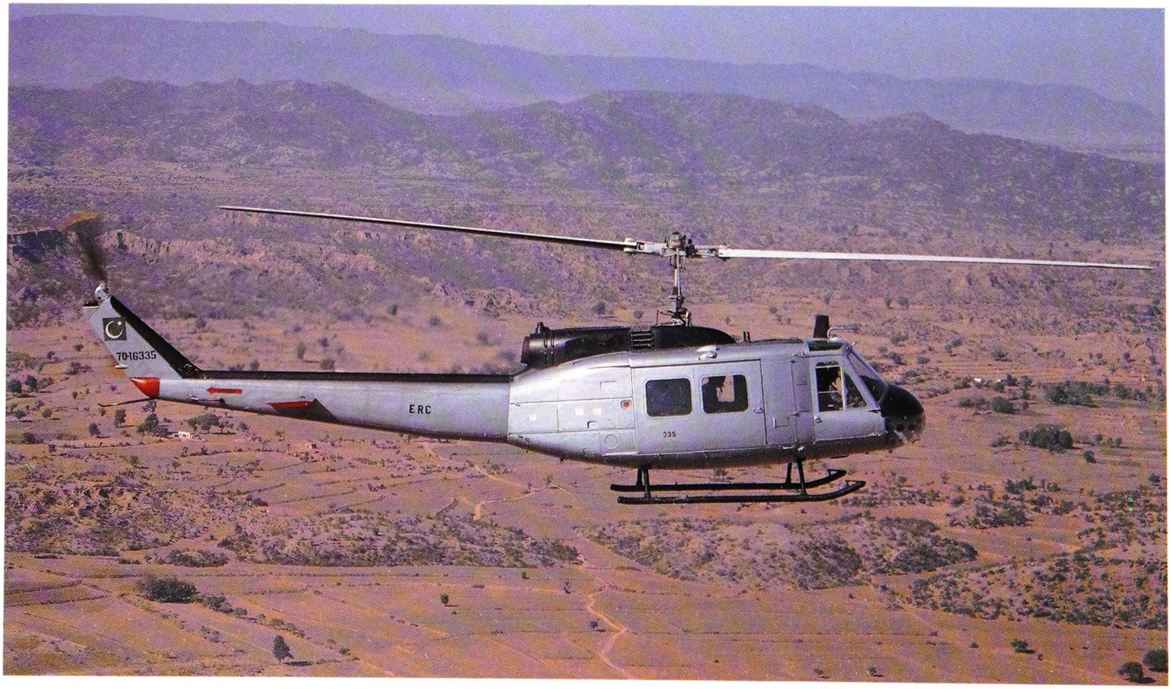
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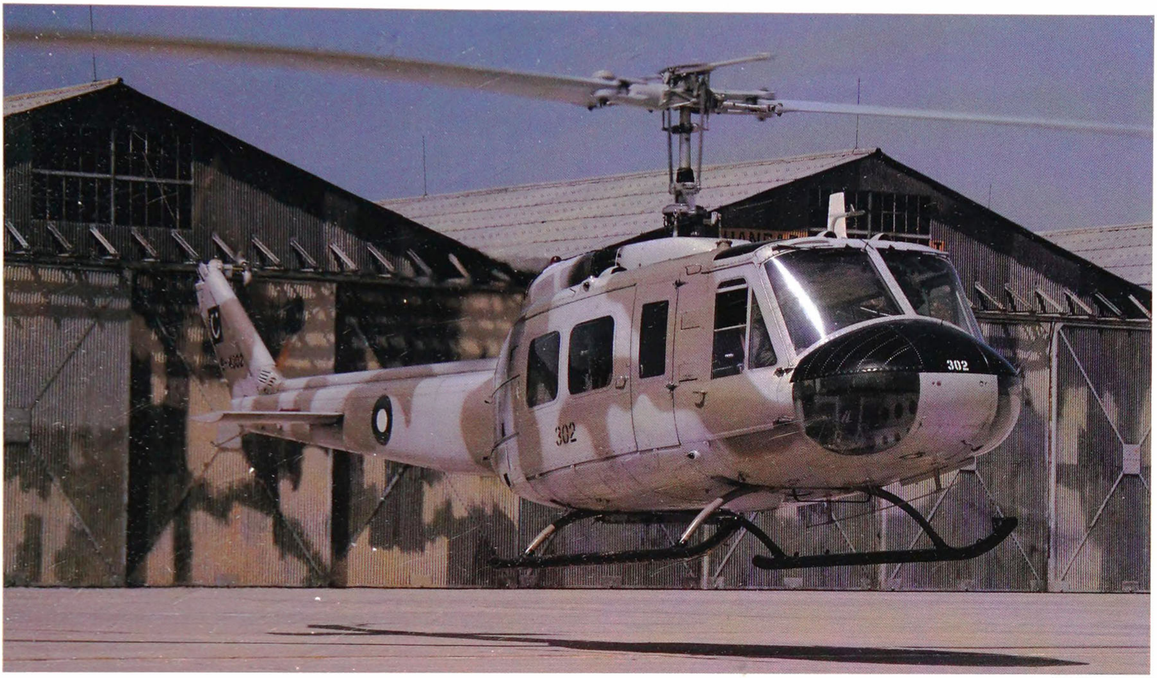
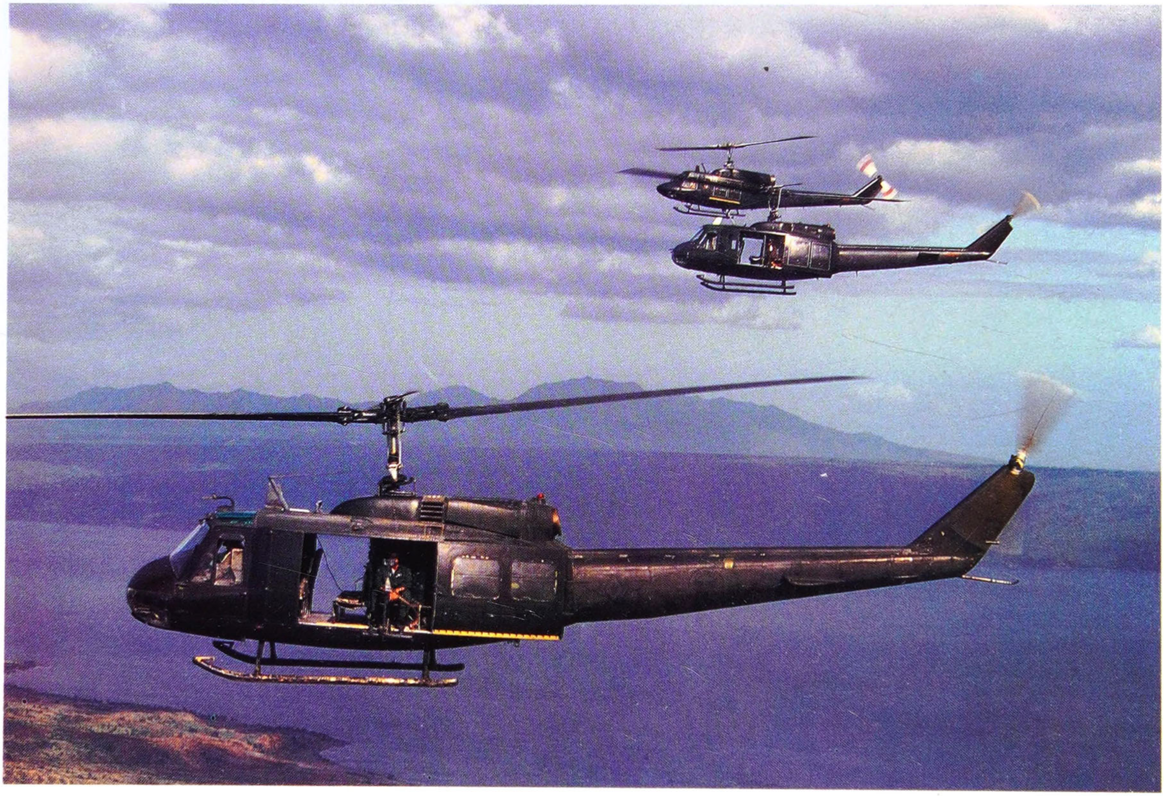


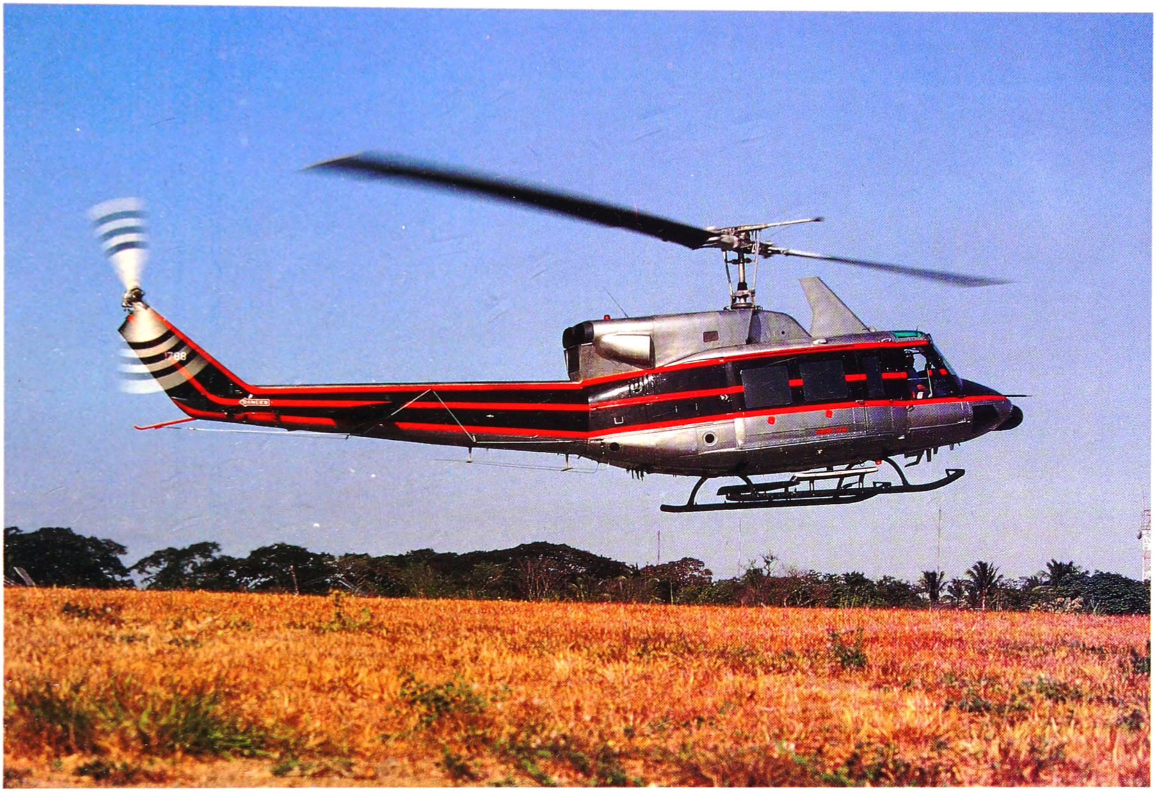
Above Operated by No 21 Sqn from Multan, this Huey is one of only five UH-1Hs delivered to Pakistan Army Aviation *(Peter Steinemann/Skyline APA)*

Above left Among the most colourful of all Hueys are the white-orange-olive UH-1Hs of the 101st Hikotai, 1st Konseidan (Composite Brigade), Seibu Homen Kokutai (Western Army Air Group) of the Japan Ground Self Defence Force. Based at Naha Air Base on Okinawa, the 'Hotels' of the 101st Hikotai share the transport burden with Kawasaki-Vertol KV-107-IIs *(Peter Steinemann/Skyline APA)*

Left Although bearing civilian colours, the entire Model 205 fleet of the Pakistan government's 'Emergency Relief Cell' is flown and maintained by Pakistan Army Aviation personnel from Dhamial *(Peter Steinemann/Skyline APA)*



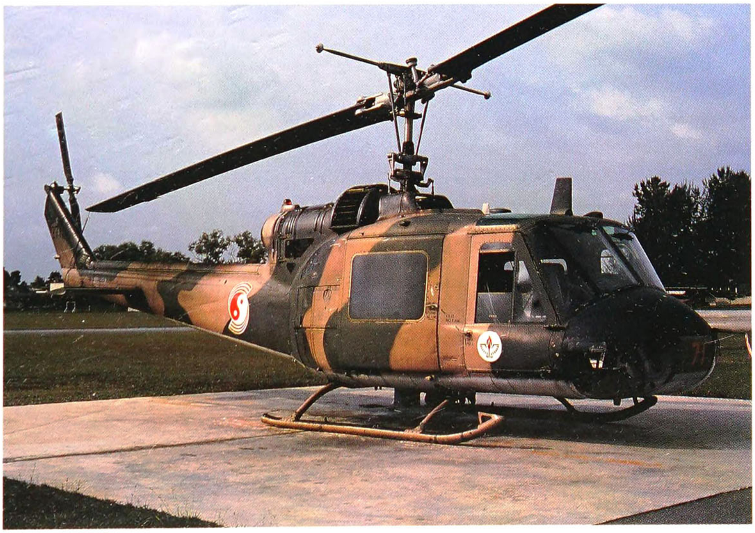
This rare formation over Lake Tal consists of a Modei 205, UH-1H and a Model 214 flown by 205 Helicopter Wing, Philippine Air Force
(Peter Steinemann/Skyline APA)

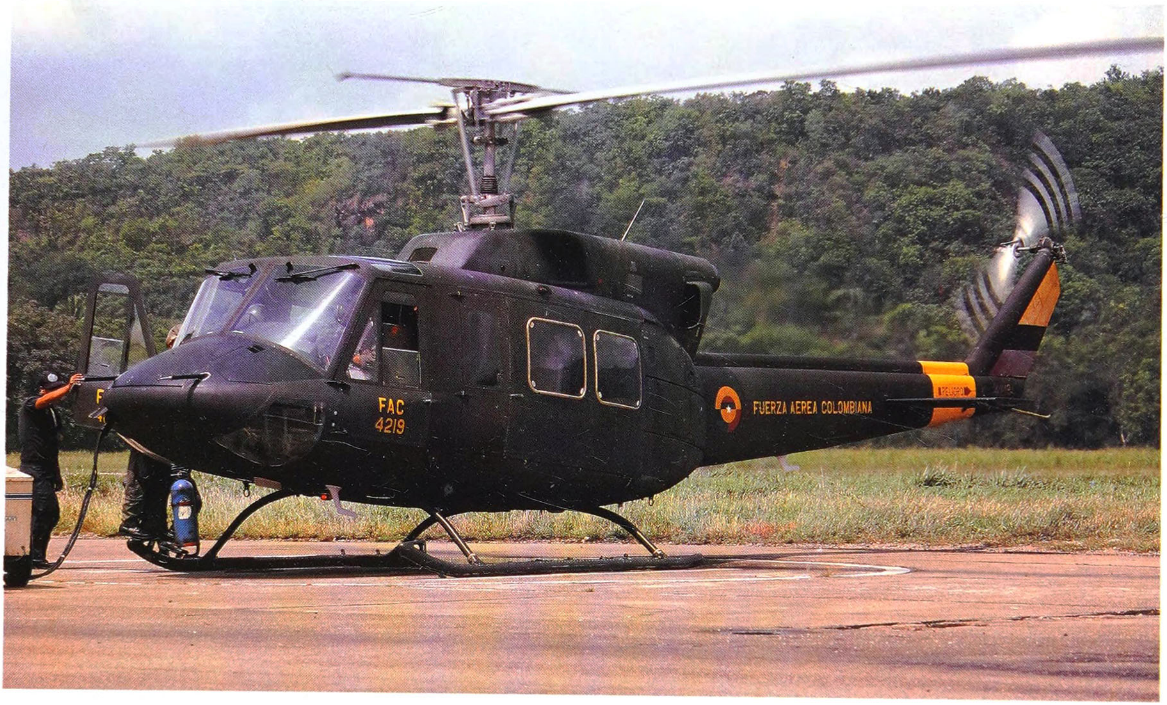


Extremely smart Model 212 Twin Two-Twelve VIP transport operated by 252 Helicopter Squadron, part of the 250th Presidential Airlift Wing, Philippine Air Force, based at Villamor *(Peter Steinemann/Skyline APA)*

Left All of the rotary-wing assets in the Sri Lanka Air Force are operated by No 4 Helicopter Wing at Katunayake. Since the Tamil separatist uprising in 1983, the SLAF has greatly expanded its fleet of aircraft and helicopters. Finished in warlike olive drab paint (anti-infrared), this 212 Twin Two-Twelve was delivered in 1985. In addition to their transport role, the 212s are often configured as gunships with door and pod-mounted Belgian FN 12.7 mm heavy machine guns (a gunner-operated 7.62 mm machine gun is also carried in the cabin), and 2.75 inch (75 mm) rocket launchers *(Peter Steinemann/Skyline APA)*

Below Now resident at Sembawang Air Base. this UH-1B of No 123 Sqn, Republic of Singapore Air Force, is one of 24 'Bravos' formerly operated by Helicopter Composite Squadron 723, Royal Australian Navy/Fleet Air Arm between 1964-88 *(Peter Steinemann/Skyline APA)*

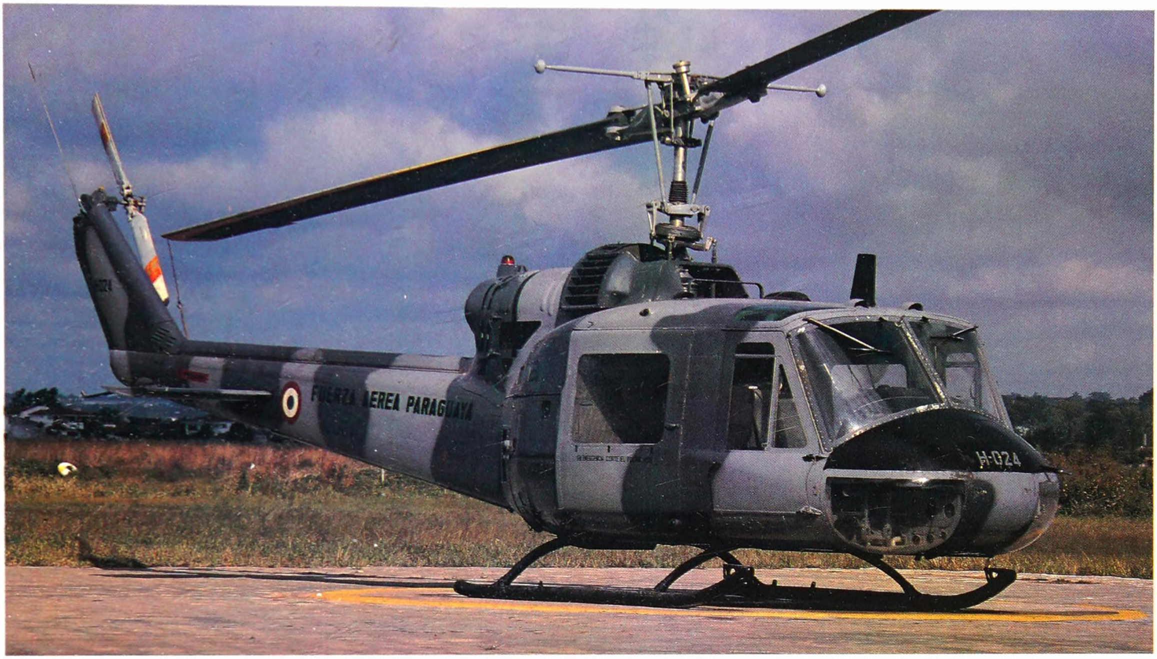


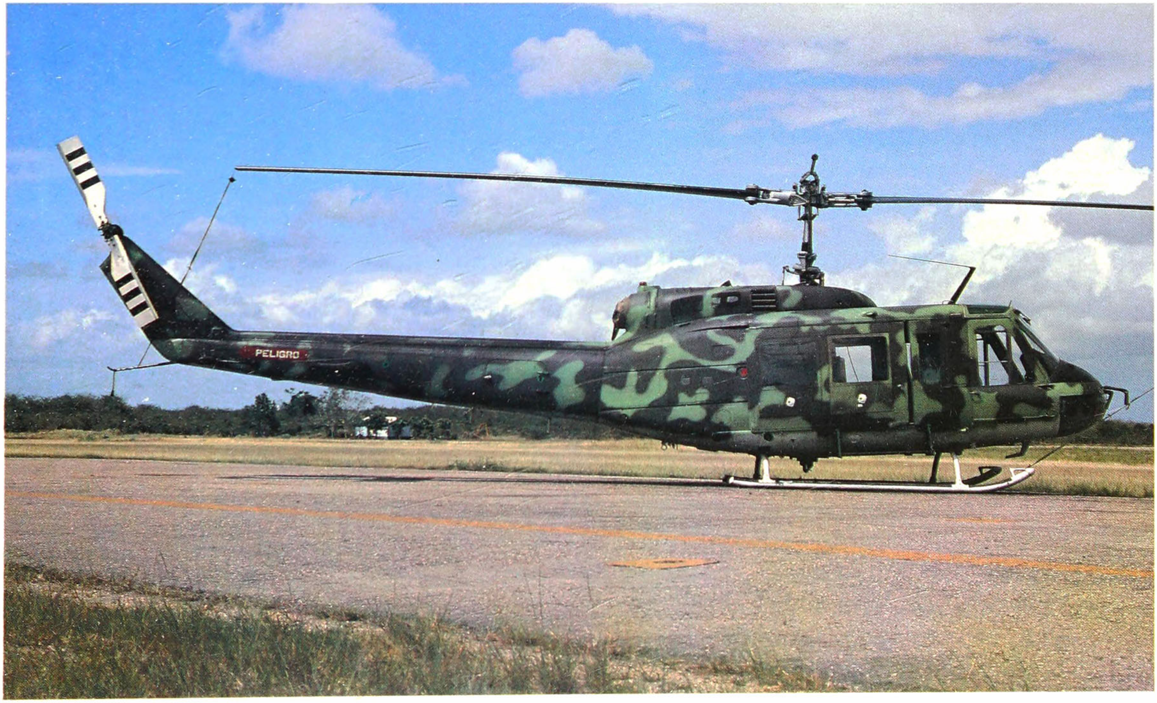


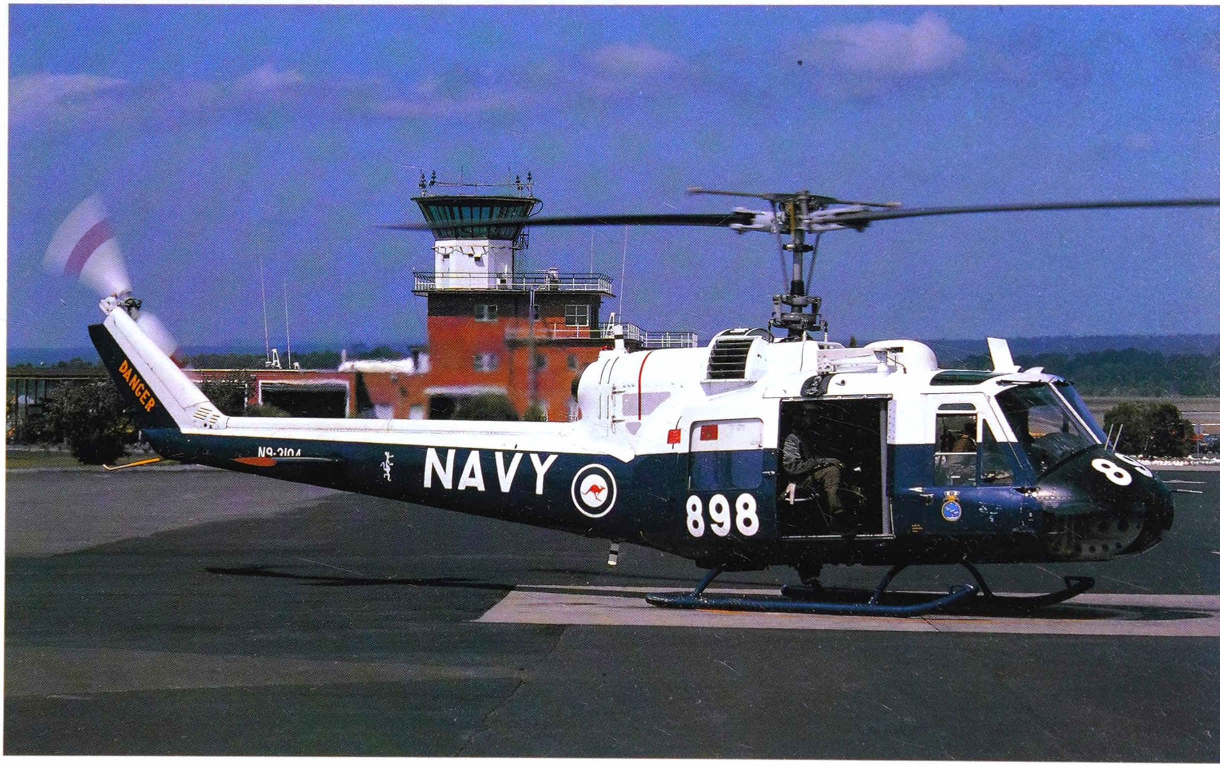
Above The Comando Aereo de Apoyo Tactico (CAATA) is the unit responsible for most of the helicopters operated by the Colombian Air Force; this Huey is one of five 212s on the strength of Escuadron Aeromovile No 513 at Base Aerea Melgar 'Luis F Pinto' *(Peter Steinemann/Skyline APA)*

Above right Starved of funds, the Dominican Republic Air Force has traditionally relied on US military aid for its equipment, including a handful of Model 205As for patrol and SAR work. The FAD was the last air force in the world to fly the Mustang piston-engined fighter operationally, selling its surviving F-51Ds in 1984. Other helicopters acquired by the FAD number a single SA.365C Dauphin (VIP transport), Bell 47G (training), Hughes 369 (liaison) and Alouette II/III (liaison and VIP roles respectively). US-supplied A-37B Dragonflies make up the FAD's sole combat element *(Peter Steinemann/Skyline APA)*

Above **Right** Painted in a very exotic jungle colour scheme, this is one of two UH-1Bs flown in the transport role by the Grupo Aereo de Helicopteros of the Paraquayan Air Force from Base Aerea Nu Guazu. Other helicopters acquired by the FAP include the Aerospatiale HB.350B, Hiller UH-12 and Bell 47G, all of which are used for liaison *(Peter Steinemann/Skyline APA)*

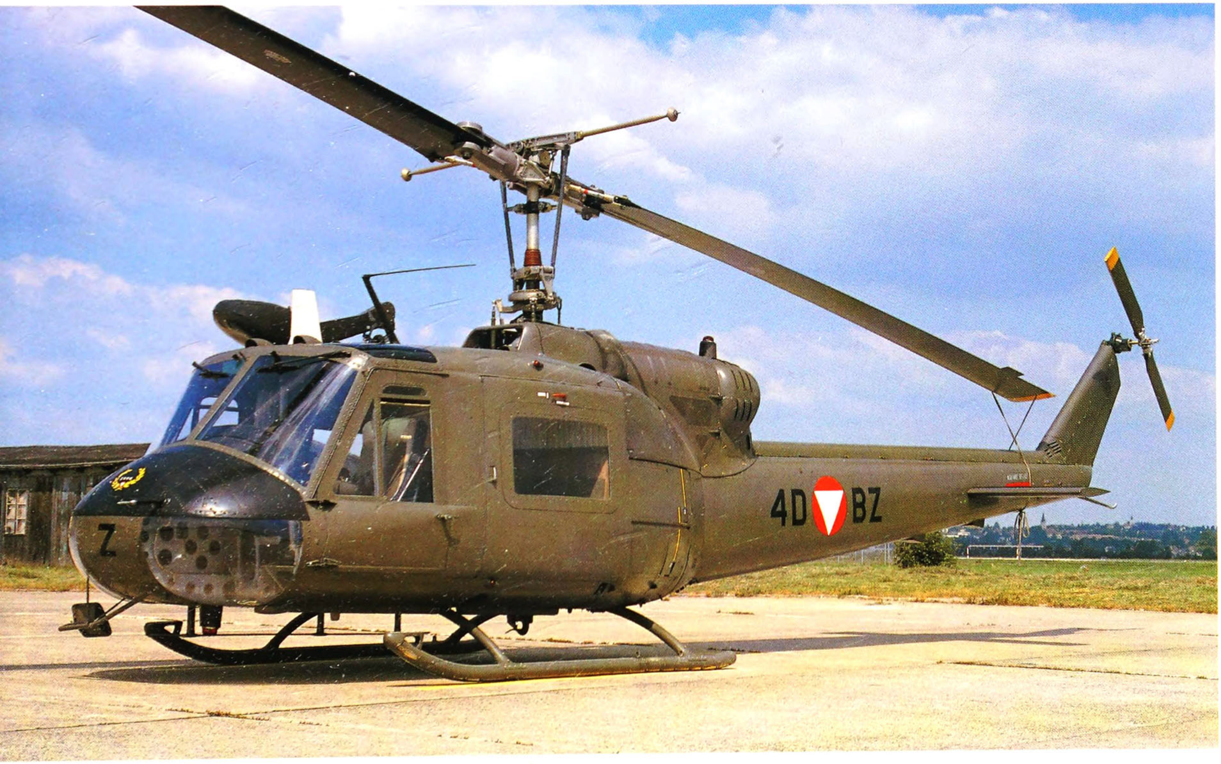

FUERZA AEREA PARAGUAYA
H-024


PELIGRO



Subsequently sold to the Republic of Singapore Air Force (page 105), this Royal Australian Navy/Fleet Air Arm UH-1B was primarily used by Helicopter Composite Squadron 723 for training aircrew selected for the Sea King and Wessex anti-submarine/transport helicopters, although the unit was also tasked with providing SAR cover from its base at NAS Nowra *(Peter Steinemann/Skyline APA)*

Seen at Linz-Horsching Air Base, this Agusta-Bell AB.204B came out of storage in 1983 and is currently on the strength of No 2 Sqn, 3rd Helicopter Wing of the Austrian Air Force *(Peter Steinemann/Skyline APA)*

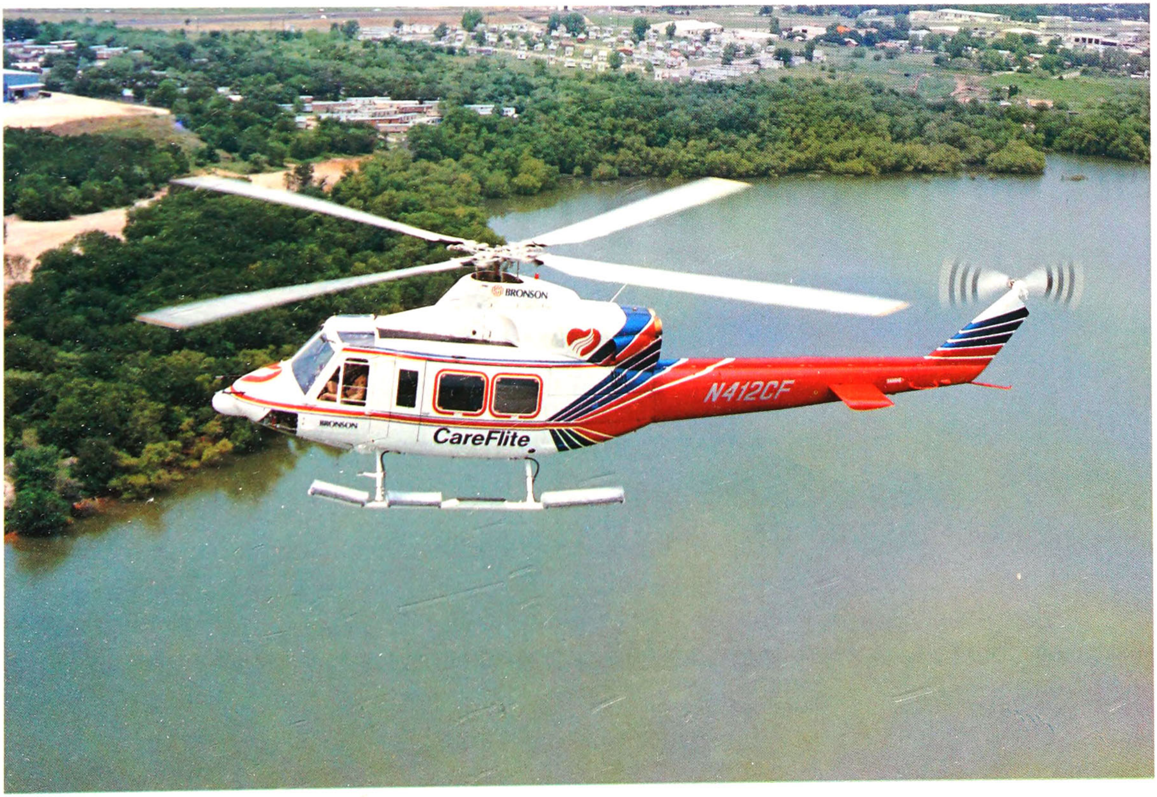


ABKATUM
A

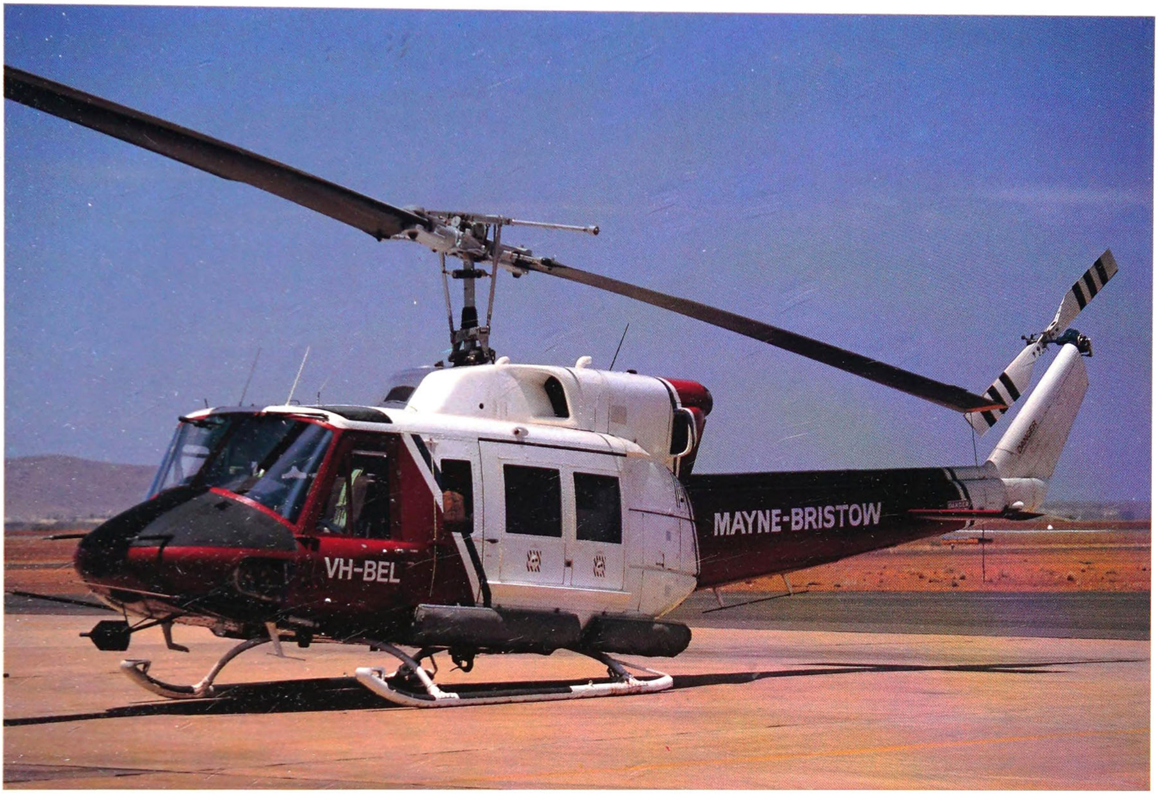
Civil Hueys

Left Bell Model 214ST (Super Transport) demonstrator waits in the hover for a Twin Two-Twelve to clear the pad on the Abkatum A oil platform off the Gulf of Mexico. A civil develpment of the Model 214A, the Super Transport was first flown in February 1977. Powered by two 1624 shp (1211 kW) General Electric CT7-2A turboshafts, the 214ST features a second-generation Noda-Matic nodal suspension system, thereby reducing noise and vibration into the main cabin, which can accommodate up to 18 passengers *(Bell Helicopter)*

Below In the United States, where health care is big business, many hospitals operating Emergency Medical Services (EMS) are equipped with helicopters. This CareFlite Model 412 can accommodate up to three litters as well as a doctor, paramedics and life-support equipment. Thanks to the four-blade rotor, the large main cabin of the 412 is a low-stress, patient-friendly environment, with reduced levels of vibration and noise The helicopter's rapid response capability enables the medical team at the hospital to receive a critically ill (but usually stabilised) patient such as a heart attack victim much earlier within the 'golden hour', thereby greatly increasing the casualty's chance of survival and often improving the subsequent rate of recovery *(Bell Helicopter)*

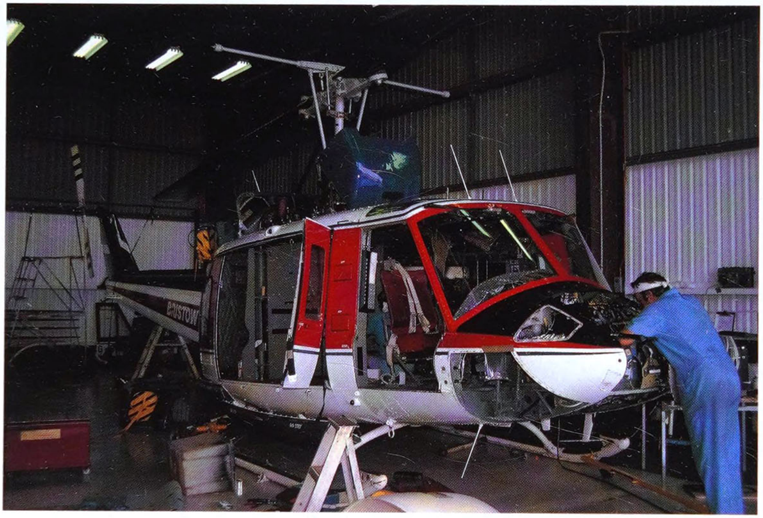


N3207C



Left For millions of Americans, business means New York, New York: 'If you can make it there, you can make it anywhere'. Fine. But if your business involves travelling out of town to see clients in Atlantic City, Baltimore, Boston, Pittsburgh or Washington DC, you'll make it more quickly by avoiding the need to drive across town to the airport and boarding a fixed-wing aircraft. The Bell 412 means business, too. Flying at 136 mph (219 km/h) after climbing to 10,500 ft (3200 m) with maximum payload and standard fuel (including 30 mins reserve), the 412 has a very useful range of 432 miles (695 km). N3207C is about to pass abeam of the Empire State Building in Manhattan *(Bell Helicopter)*

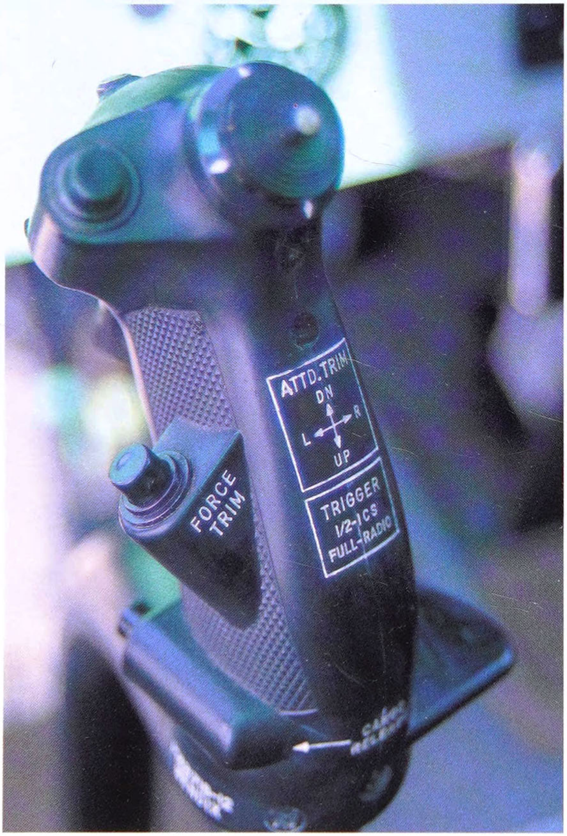
Above Mayne-Bristow was formed in 1967 when Mayne Nickless Ltd of Australia joined forces with UK-based Bristow Helicopters. Based at Karratha Airport in Western Australia, the company has played a leading role in the support of offshore oil and gas exploration in the region under contract to Woodside Petroleum. A pair of Agusta-Bell AB.212s back-up the company's three SA.330J Pumas, which are usually kept busy ferrying personnel to and from the North Rankin A natural gas production platform. When this photo was taken in 1988, VH-BEL was painted in Mayne-Bristow's predominantly white scheme with scarlet nose and tail boom; this reflected away much of the heat absorbed by the royal blue applied to the upper fuselage as per the Bristow Helicopters' colour scheme, the consequent reduction in cabin temperature making life more comfortable for the passengers and crew. However, the air rescue division of the parent company was already using a very similar scheme and so Mayne-Bristow were instructed to revert to the old red, white and blue *(Tony Holmes)*



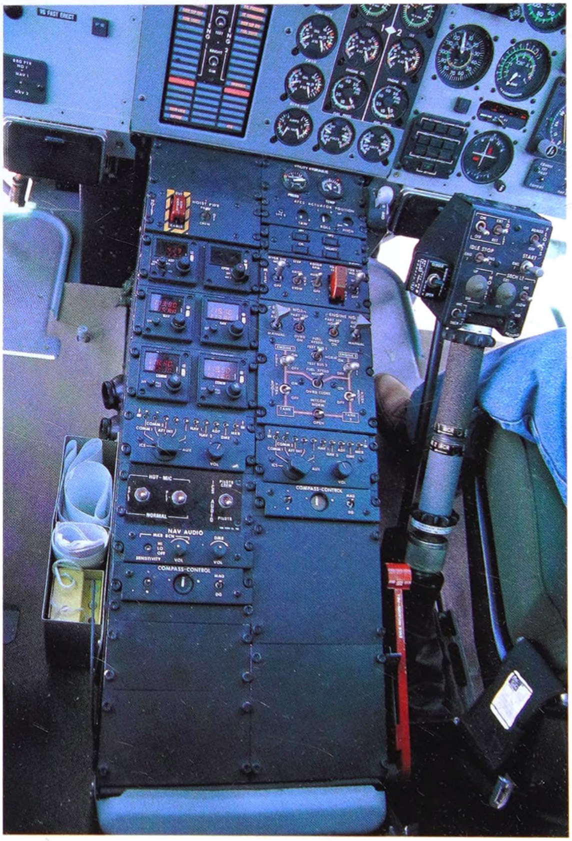
Above Doubling the AB.212 fleet of Mayne-Bristow, VH-BEY (formerly G-BMVF) was crated over from the UK in March 1988. Inside one of the company's three permanent hangars at Karratha Airport, the new arrival is being re-assembled prior to air-testing *(Tony Holmes)*

Right Unlike sistership VH-BEL, Mayne-Bristow's second AB.212 has the instrument layout, avionics package (including RCA Primus 21 weather radar) and stabilisation controls necessary for full IFR capability; VH-BEY also has larger cabin windows and is fitted with more modern safety gear for over-water operations. In June 1977 the Model 212 became the first helicopter to be type-certificated by the FAA for single-pilot IFR operation, albeit with fixed floats. Interestingly, several Mayne-Bristow pilots flew Hueys in Vietnam for the Royal Australian Air Force, Royal Australian Navy, Australian Army and, as part of a military aid programme offered to America by the Australian government, the US Army *(Tony Holmes)*

ISTOW
VH-BEY
NO PUSH



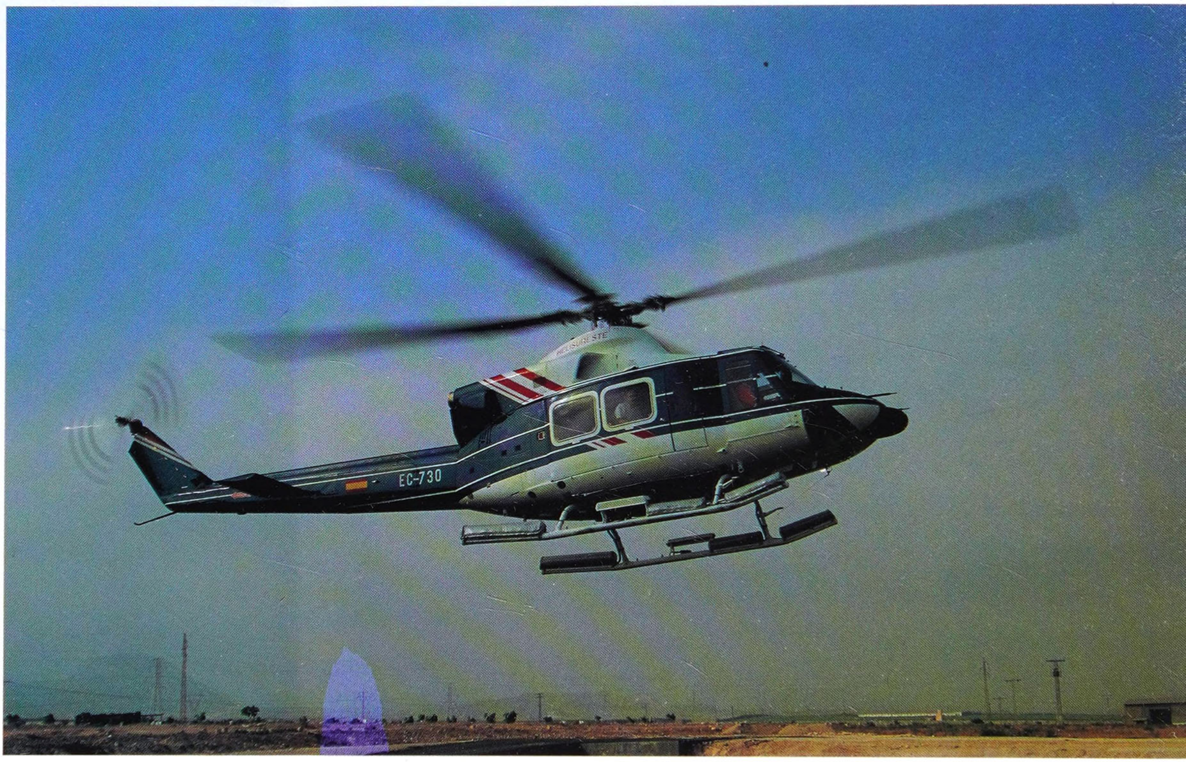
These pages Detail of the AB.412SP's instruments and controls: The cyclic pitch control column handgrip with attitude and force trimmers and radio transmit button (offset to the left)



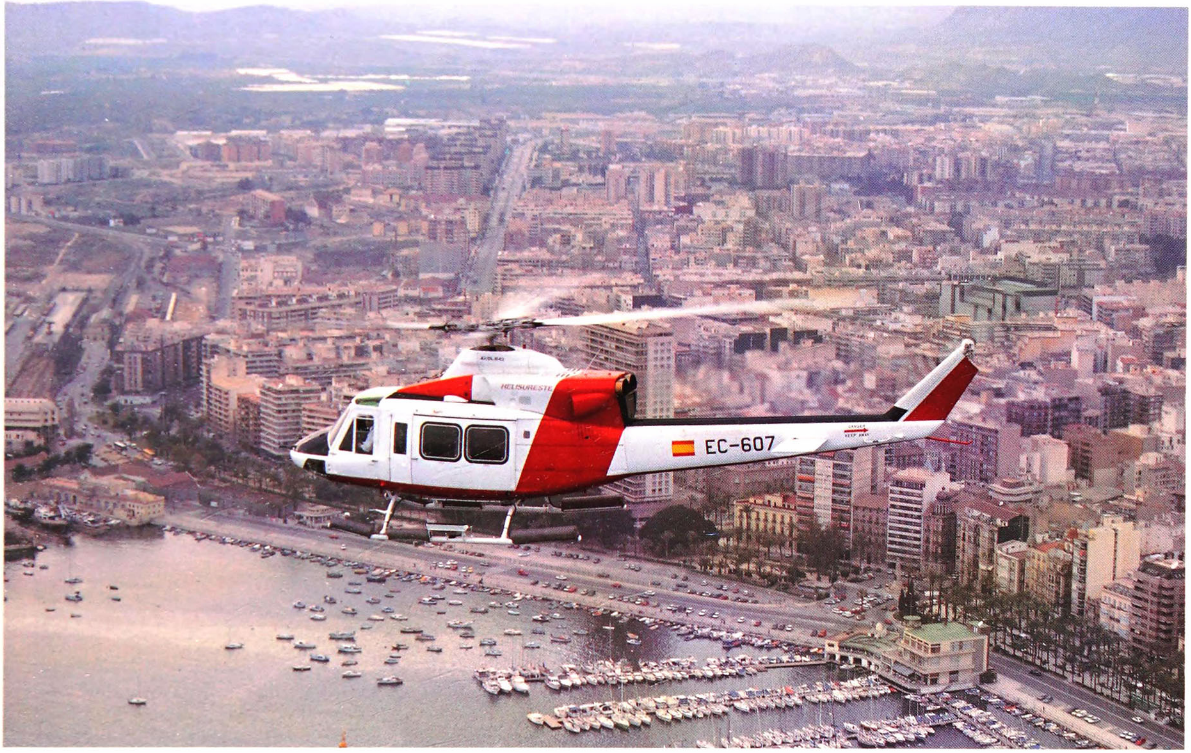
Close up of the control box (situated under the pilot's primary flight instruments) with switches/controls for landing lights, floats, engine start, hoist and searchlight

Right the central console including DME/ADF nav, VHF/AM/FM comms, engine/fuel switches, and automatic flight control system (AFCS); on the main panel are warning captions and engine rpm, fuel quantity and hydraulic pressure indicators

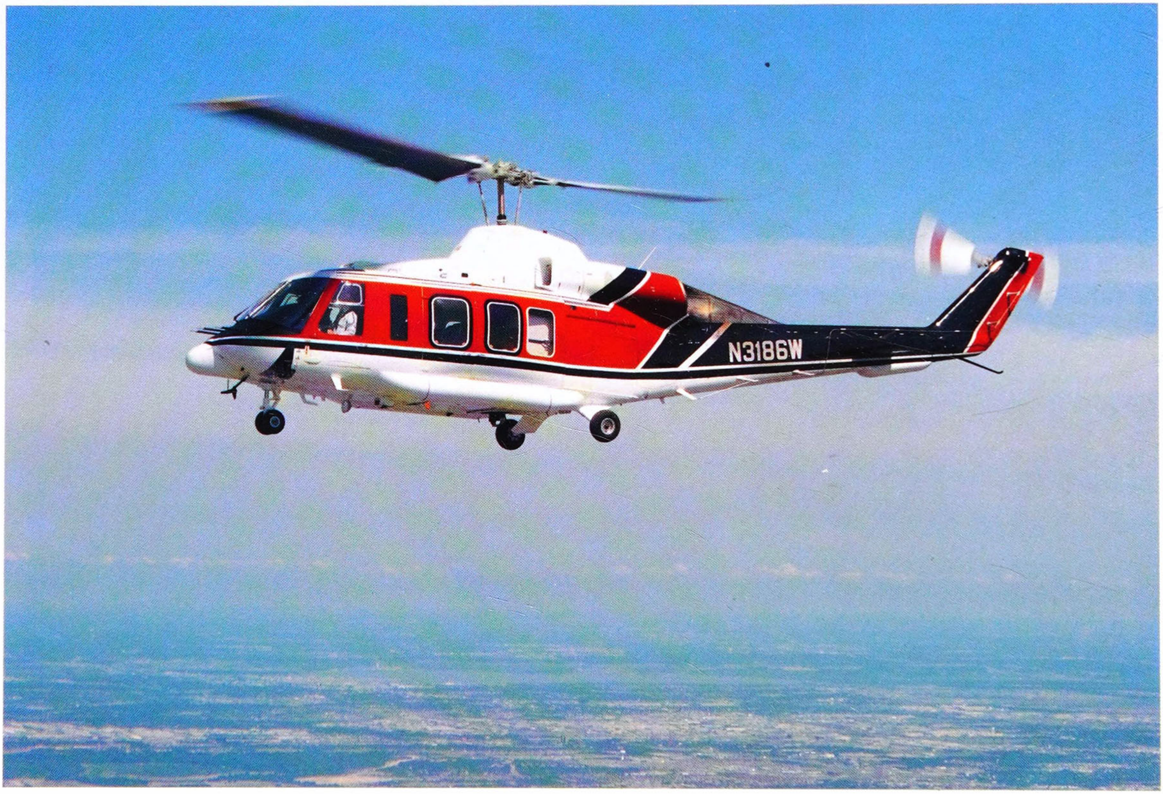
LDG LT
ON
EXT
OFF
RET
ARMED
FLOATS
OFF
IDLE STOP
ENG
2
START
ENG
2
UP
SRCH LT
EXT
ON
DN
STOW
RET
INC
RPM
DECR
GO AROUND
THR
INCR



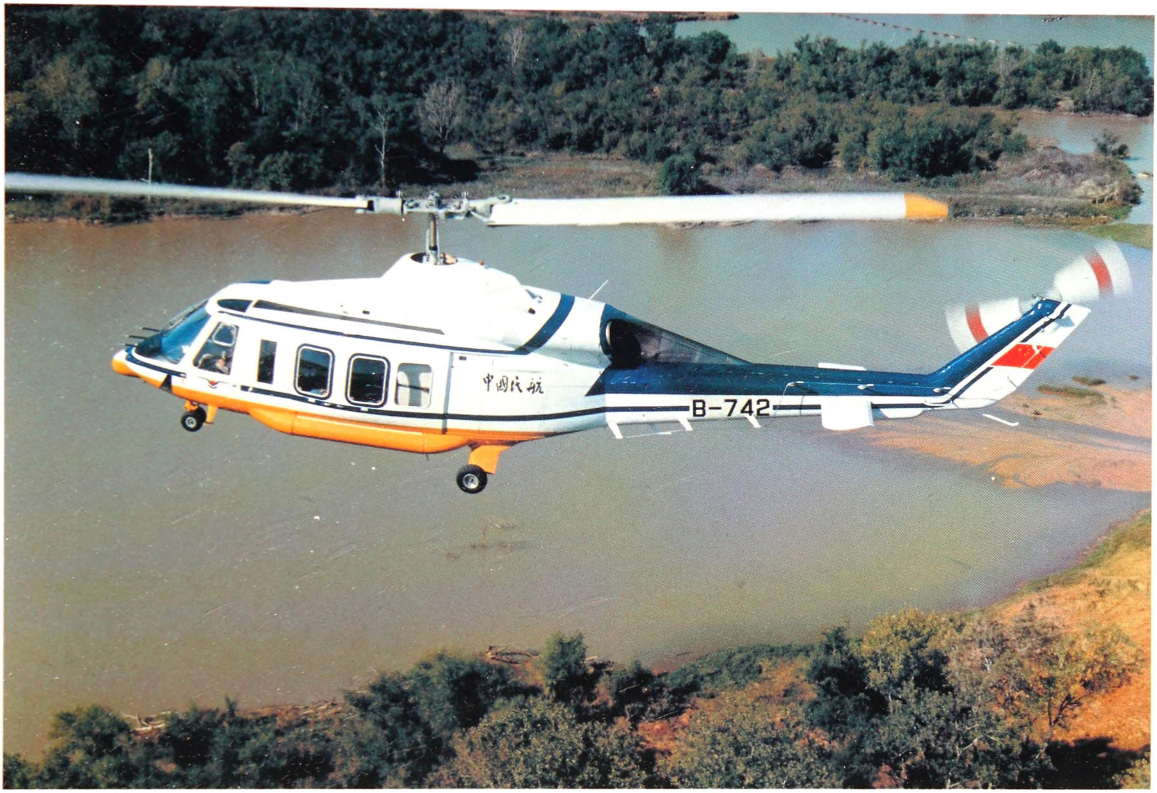
This Model 412HP (High Power), the fourth production machine (c/n 36023) and the first in Europe, was delivered from the Canadian production line to the Spanish operator Helicopteros del Sureste SA (HELISURESTE) in April 1991. The result of a nine and a half month development and testing programme, the 412HP features an improved transmission configuration with a 13% greater equivalent output rating (certificated by the FAA on 29 June 1990), which significantly improves its out-of-ground-effect hover performance at maximum gross weight, which is 11.900 lb (5398 kg)



HELISURESTE operates a mixed fleet from its base near Alicante, in southeast Spain, consisting of one 412HP, this AB.412SP, one Bell 412SP, six Bell 206 JetRanger/LongRanger, and three Agusta A.109s. This dynamic company carries out EMS, SAR, fire-fighting and environmental protection work, mostly under contract to the provincial authorities. Leading from the front, managing director Luis Minano has logged more than 12,000 hours on helicopters. Here, HELISURESTE'S AB.412SP is on SAR patrol over the yacht club and residential areas of Alicante, a bustling, Mediterranean city of 282,000 people with a mild year-round climate



One of the initial 100 Model 214STs built by Bell, N3186W displays the fixed landing gear often preferred by corporate customers; wheels and air-stair door kit are also available as an option on the Model 412SP *(Bell Helicopter)*

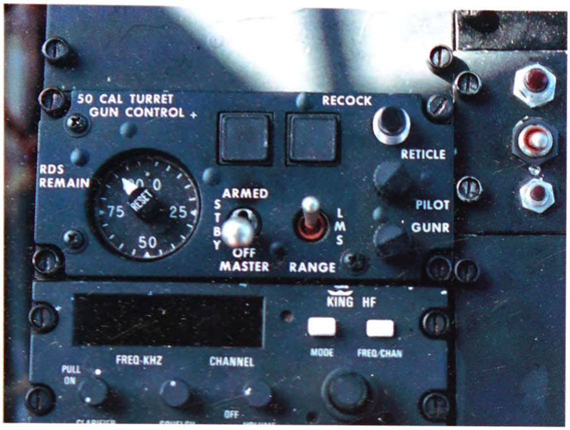


One of the initial customers for the 214 SuperTransport was the People's Republic of China, which placed an order for four in early 1982. Maximum cruising speed at 4000 ft (1220 m) is 159 mph (256 km/h); range (flying at the same altitude with maximum fuel, no reserves) is 533 miles (858 km)

Military 412SP

Low-level tactical flying is second nature to an experienced military helicopter pilot, offering the best defence against anti-aircraft weapons and enemy fighters. The main rotor of the 412 can be folded (unnecessary on earlier two-blade Hueys), allowing the helicopter to be concealed in the trees close to the battlefield if required

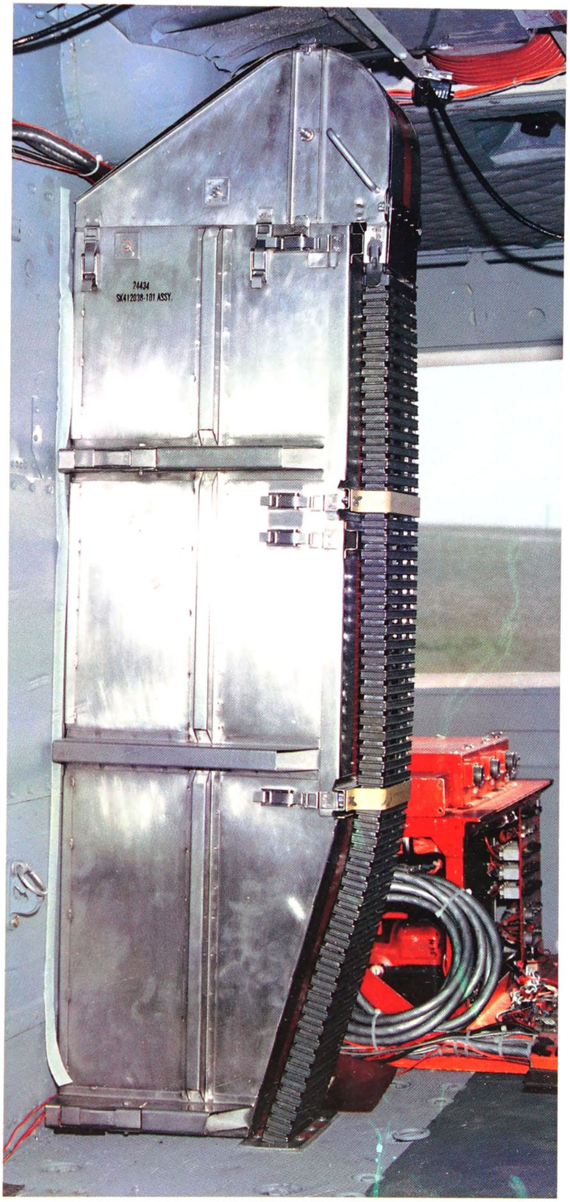
412
AH


50 CAL TURRET GUN CONTROL
RECOCK
RETICLE
PILOT
GUNR
RDS REMAIN
RESET
ARMED
STBY
OFF
MASTER
RANGE
LMS
KING HF
FREQ-KHZ
CHANNEL
MODE
FREQ/CHAN
PULL ON
OFF

Above The turret control box: the gun can be fired through a 110 degree arc in azimuth, elevation and depression angles being +15 and −45 degrees respectively. Aiming is provided by a Sperry Helmet Tracker helmet sight system almost identical to that used in the AH-1S Cobra

Left Over a quarter of century after receiving the initial production order for the first HU-1As, Bell announced the Military 412SP in June 1986. All of the photos in this final chapter feature the company demonstrator N412AH (AH for 'Attack Helicopter'), a mean-looking machine toting a 0.50 in calibre machine gun in an electricly operated Lucas Aerospace undernose turret

Right Firing at 600 rdpm, the gun is power-fed from electricly driven ammunition belts; the magazine (capacity 875 rounds) is fitted at the front of the main cabin *(Bell Helicopter)*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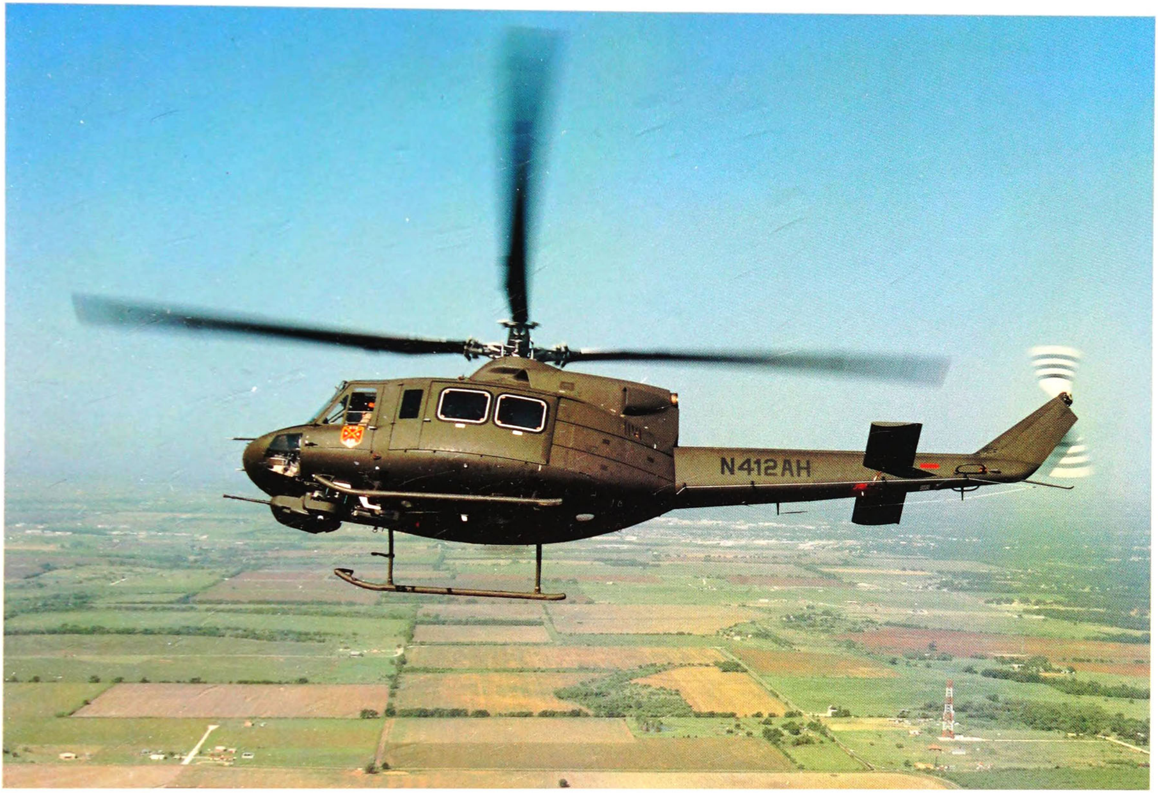

Left Wire-strike protection is standard on the Military 412 and is available on all Bell helicopters. The cable-cutter fitted to the top of the windscreen is designed to prevent power lines and telephone cables from hitting the rotor blades

Above and overleaf Powered by the trusty Pratt & Whitney Canada PT6T-3B-1 Turbo Twin Pac (identical to that in preceding Twin Hueys and the 412SP) , developing a total of 1400 shp (1044 kW) for take-off and 1130 shp (843 kW) for continuous operation, the Military 412 has ample performance, although the drag and 414-lb (188-kg) weight of the turret installation reduces maximum level speed to 138 mph (222 km/h). In addition to the gun turret (which can be installed or removed in under 30 minutes), armament also includes a pair of 19-round rocket launches

N412AH

OSPREY MILITARY AIRCRAFT

An icon of the Vietnam War, the UH-1 Huey has served more time in battle over the past 30 years than any other military helicopter. Over 10,000 of this type have been built by Bell, performing air assault, medevac, transport, anti-submarine duties, and other vital roles around the world.

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